

Knowledge Regarding Dengue Fever and its Prevention among the Adults

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Abstract: *Background: Dengue fever (DF) is the most rapidly spreading mosquito-borne viral disease in the world. In this decade it has expanded to new countries and from urban to rural areas.*

“Adults living in a specified rural area of Kolhapur were the subjects of a pre-experimental study that aimed to assess the impact of a planned teaching programme (PTP) on their understanding about dengue fever and how to prevent it.” Was conducted by researcher.

Objectives:

1) To evaluate the effectiveness of planned teaching programme (PTP) on knowledge regarding dengue fever and its prevention among adults of selected rural area.

2) To find out association between mean pre-test knowledge score with their selected socio demographic variables.

Methods:

This study employed a non-probability, purposive sampling strategy to choose 60 samples for an experimental, one-group pre- and post-test design. A structured knowledge questionnaire about dengue fever and how to prevent it was used to gather data. After the pre-test, the samples were given a PTP, and seven days later, after the PTP had been provided, the samples were tested again.

Results: In pre test maximum of the subjects 40(66.67%) had average knowledge and minimum 09(15%) had poor knowledge where as in post test 55(91.667%) subjects had good knowledge and remaining 05(8.33%) had average knowledge regarding dengue fever and its prevention. Although the tabular value is 2.00, the computed paired t-value ($t_{cal} = 13.64$) is higher. At the $p < 0.05$ level, this signifies that there is a statistically significant increase in knowledge score. Consequently, the results showed that the PTP on dengue fever and its prevention successfully increased the respondents' knowledge of dengue fever and its prevention in the selected rural areas. The pre-test knowledge scores are significantly correlated with selected socio-demographic variables such as age ($\chi^2_{cal} = 26.73$, $\chi^2_{tab} = 9.49$) and occupation ($\chi^2_{cal} = 42.32$, $\chi^2_{tab} = 9.49$). At the 0.05 level of significance, the computed Chi-square values exceeded the tabular values. The results show that some socio-demographic characteristics are significantly associated with pre-test knowledge scores ($p < 0.05$).

Keywords: Knowledge; Dengue fever; prevention; adults; rural area

I. INTRODUCTION

The world's fastest-spreading mosquito-borne virus, dengue fever (DF), has moved to new nations and from cities to rural areas in the past ten years.

“This study aims to assess the efficacy of a planned teaching programme (PTP) on adults' knowledge about dengue disease and its prevention in a selected rural area of Kolhapur.” was conducted by researcher.

It seems likely that vector management efforts are not being implemented correctly and could use some improvement, given that DF occurs annually and the number of cases increases with each epidemic. It has been found that the dengue vector, along with human knowledge and behaviour, plays a significant influence in the spread of the diseases. Given the gravity of the situation, this study set out to evaluate nursing students' dengue knowledge, attitudes, and preventive practices, as well as to establish a correlation between these variables and the prevalence of dengue fever.

There has been growing consensus that dengue fever is one of the most rapidly spreading infectious diseases in recent years (Guzman & Kouri, 2002; Gubler, 2002; Halstead, 1999). Approximately 24,000 people die every year from dengue fever, which is reported in 50-100 million cases and 500,000 cases of dengue hemorrhagic fever (DHF) (Porter et al, 2005; WHO, 1997). Dengue fever is among the most important human viral diseases transmitted by arthropod vectors in terms of morbidity and death. It affects more than half of the world's population, and it is one of the most dangerous diseases in this regard (Gibbons & Vaughn, 2002). India is now experiencing an outbreak of dengue/DHF. Dengue and DHF epidemics occur every year since it is endemic in some regions of the nation (Sharma et al., 2000). Urban and peri-urban regions are the most impacted. Both the number of cases and the geographic spread of the disease have grown substantially throughout the past decade. Dengue fever has been on the rise in India in recent years as a result of changes in lifestyle, inadequate water management, and increased urbanisation. Mosquito breeding grounds expand due to poor water storage techniques in rural, peri-urban, and metropolitan regions. A total of 89 people lost their lives in 2009 out of 15,509 documented cases in India.

Methods:

A pre experimental, one group pre test & post test research design was used, which consisted a group of 60 samples that were selected by using Non-Probability, purposive sampling technique. Data was collected by using structured knowledge questionnaire regarding dengue fever and its prevention. A PTP was administered to the samples at the end of the pre test and a post test was conducted 7 days after pre test and from administration of PTP.

HYPOTHESES:-

All hypotheses were tested at 0.05 level of significance:

H₁-The mean post test knowledge score of subjects attending planned teaching programme on dengue fever and its prevention will be higher than their mean pre test knowledge score.

H₂-There is an association between pre test knowledge scores of dengue fever and its prevention with their selected socio-demographic variables.

PROJECTED OUTCOME:

- The planned teaching program (PTP) was effective to upgrading their knowledge regarding dengue fever and its prevention among adults in selected rural area.

The conceptual model selected for the study was based on General Model by Bertalanffy (1968).

A "science of wholeness and its purpose is to unite thinking across discipline and which provides frame work for analysing the whole of any given system," he calls General System Theory. According to Ludwig von Bertalanffy, a system is defined "as a complex interaction," which implies that, instead of a single function being lost, the system is formed by two or more converted elements that interact with each other to produce an organised whole. An assembly of feedback and circuits, including input, throughput, and output, may resolve all system activity. When a component of the system isn't working properly, it might disrupt the entire system. To keep the system running well, the feedback circuit is useful.

INPUT: Everything that comes into a system through its openings, whether it be energy, data, materials, or people, is called an input. In this research, "input" means the subjects' self-reports on socio-demographic factors. Adults in a sample of rural areas had their dengue fever knowledge and prevention skills tested. It would be clear that action is necessary in this case.

THROUGHPUT:

This is the step that happens between the input and output procedures that makes it possible for the system to make use of the input. Researchers in this study used the term "throughput" to describe the intervention that involved creating and administering a PTP to combat dengue illness.

OUTPUT: What goes into the environment is called output, and it can be energy, materials, or data. The observable and quantifiable characteristic of a process is change, and it is expected that the system's output will differ from the input.

Outcomes in this study include a comparison of the pre- and post-test delivery times of PTP for the prevention of dengue fever. The data collected in this way could serve as input for the system, allowing it to be better maintained and enhanced.

PRESENTATION OF DATA:

The data was entered in a master sheet for tabulation and statistical processing. Analysis of data is organized and presented under the following heading:

Section I: Findings related to distribution of socio-demographic data of subjects.

Section II: Findings related to distribution of pre test and post test knowledge scores of subjects in selected rural area.

Section III: Findings related to mean, median, mode, range and standard deviation of pre test and post test knowledge scores of subjects regarding knowledge on dengue fever and its prevention.

Section IV: Testing of hypotheses on effectiveness of PTP on prevention of dengue fever among subjects.

Section V: Testing of hypotheses to find out association between pre-test knowledge scores with their selected socio-demographic variables.

SECTION I: Findings related to distribution of socio demographic data of subjects in selected rural area.

In this section the researcher analyzed and categorized the subjects of the study to various groups based on the selected socio demographic variables.

Table-1: Frequency and percentage distribution of subjects of selected rural area according to their socio-demographic variables. n=60

| Sr. No | Variables | Frequency f | Percentage % |
|----------|------------------------------|----------------|-----------------|
| 1 | Age in years | | |
| | 21-30 | 52 | 86.67 |
| | 31-40 | 07 | 11.67 |
| | 41-50 | 01 | 01.66 |
| 2 | Gender | | |
| | Male | 07 | 11.66 |
| | Female | 53 | 88.34 |
| 3 | Education background | | |
| | Primary | 03 | 05.00 |
| | Secondary | 29 | 48.34 |
| | Higher secondary | 15 | 25.00 |
| 4 | Graduate | 13 | 21.66 |
| | Occupation | | |
| | Service | 10 | 16.66 |
| | Farmer | 06 | 10.00 |
| 5 | Housewife | 44 | 73.34 |
| | Source of information | | |
| | Family members | 02 | 03.33 |
| | Friends | 03 | 05.00 |
| | Mass media | 13 | 18.33 |
| | None | 42 | 73.34 |

TESTING OF HYPOTHESES:

H₁ – The mean post test knowledge score of subjects in selected rural area regarding dengue fever and its prevention is higher than mean pretest knowledge score at 0.05 level of significance.

Findings related to data on effectiveness of PTP on dengue fever and its prevention among subjects in selected rural area.

In this section the researcher analyzed and categorized the mean difference, standard error difference and paired ‘t’ value of knowledge scores of subjects in selected rural area regarding dengue fever and its prevention.

Effectiveness of PTP on knowledge regarding dengue fever and its prevention among subjects in selected rural area. n=60

| Mean difference | Standard error Difference (SED) | Paired ‘t’ values | | df |
|-----------------|---------------------------------|-------------------|-----------|----|
| | | Calculated | Tabulated | |
| 7.77 | 0.54 | 13.64* | 2 | 59 |

Table 4: Indicates that,

The calculated paired ‘t’ value (t cal= 13.64) is greater than tabulated value (t tab= 2.00). **Hence H₁ was accepted.** This indicates that the gain in knowledge score was statistically significant at p<0.05 level.

i.e. **H₁: $\mu \neq \mu_0$.**

Therefore the findings revealed that the PTP on dengue fever and its prevention was effective in increasing the knowledge regarding dengue fever and its prevention among subjects in selected rural area.

H₂– There is an association between pre-test knowledge scores of the subjects in selected rural area regarding dengue fever and its prevention with their selected demographic variables.

Findings related to association between pre-test knowledge scores with the selected socio-demographic variables.

In this study the researcher analyzed and categorized the association between pre test knowledge scores of the subjects in selected rural area regarding dengue fever and its prevention with their selected demographic variables

Association between pre-test knowledge score with their selected socio demographic variables.

n = 60

| Sr.no | Variables | Scores | | | Chi square | | df |
|-------|---------------------|--------|---------|------|------------|-----------|----|
| | | Good | Average | Poor | Calculated | Tabulated | |
| 1 | Age in years | | | | 26.73* | 9.49 | 04 |
| | 21-30 | 03 | 38 | 11 | | | |
| | 31-40 | 05 | 02 | 00 | | | |
| | 41-50 | 01 | 20 | 00 | | | |
| 2 | Gender | | | | 1.34 | 5.99 | 02 |
| | Male | 00 | 06 | 01 | | | |
| | Female | 09 | 34 | 10 | | | |
| 3 | Education | | | | 5.66 | 12.59 | 06 |
| | Primary | 00 | 02 | 01 | | | |
| | Secondary | 05 | 17 | 07 | | | |
| | Higher secondary | 01 | 11 | 03 | | | |
| | Graduate | 03 | 10 | 00 | | | |
| 4 | Occupation | | | | 42.32* | 9.49 | 04 |
| | Service | 05 | 04 | 01 | | | |
| | Farmer | 00 | 05 | 01 | | | |
| | House wife | 04 | 31 | 09 | | | |

| Sr.no | Variables | Scores | | | Chi square | | df |
|-------|------------------------------|--------|---------|------|------------|-----------|----|
| | | Good | Average | Poor | Calculated | Tabulated | |
| 5 | Source of information | | | | | | |
| | Family | 00 | 02 | 00 | 9.58 | 12.59 | 06 |
| | Friends | 01 | 02 | 00 | | | |
| | Mass media | 05 | 06 | 02 | | | |
| | None | 03 | 30 | 09 | | | |

Note: * indicates significant

NURSING IMPLICATIONS

Implication of the Study

The findings of the study have several implications in different areas

Which are discussed in following area,

1. Nursing Education
2. Nursing Practice
3. Nursing Administration
4. Nursing Research.

NURSING EDUCATION

This work contributes to the body of nursing knowledge by expanding our understanding of Dengue fever and how to prevent it. Nursing practitioners have a great chance to educate the public through this study. The study highlights the importance of providing in-service nurses with enhanced information on dengue fever prevention through short-term training.

NURSING PRACTICE

As part of their job duties, nurses who work in community settings might look for ways to educate the public about dengue fever and how to prevent it. Because they will require long-term care, nurses should put health in the hands of the community by raising awareness.

In order to teach the public about dengue fever and how to prevent it, nurses could utilise the information guide sheet that the investigator created.

NURSING ADMINISTRATION

Nursing administrators should take part in health policy making, developing protocols and standing order related to Dengue fever and its prevention. Nursing administrators should concentrate on proper selection, placement and effective utilization of nurses in all areas, giving opportunity for creativity, creating interest and enhanced ability in educating the peoples.

NURSING RESEARCH

This study helps the nurse researcher to develop insight about the development of teaching module and materials for peoples towards promotion of quality life and prevention of Dengue fever. Only few studies have been conducted on knowledge regarding Dengue fever and its prevention. This study reveals that there is a depth of knowledge among community people such a situation requires further research to explore more knowledge.

LIMITATIONS:

No broad generalizations could be made due to small size of samples and limited area of research setting.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

- 1 .A similar study needs to be conducted in urban community area in order to draw a generalization
- 2 ..A similar study may be done with a large sample for generalization of the results.
3. A comparative study may be undertaken to compare the findings with regard to the rural and urban population
- 4.A follow up study may be conducted to evaluate the effectiveness of the planned teaching programme on the people.

II. CONCLUSION

Based on the findings of the study, the following conclusions were draw

There was significant association between pre test knowledge scores and selected socio-demographic variable like Age and There is significant association between pre test knowledge scores and Selected socio-demographic variable like Occupation.

Study revealed that Planned teaching programme on dengue fever and its prevention was effective in order to gain the knowledge regarding dengue fever and its prevention among adults in selected rural area.

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