

## Effectiveness of Educational Module on knowledge regarding Dengue and its prevention

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### Abstract

The quantitative, pre experimental design was used to assess the effectiveness of educational module on knowledge regarding Dengue and its prevention among mothers of under five children. The participants of 60 were selected, by convenient sampling technique. The structured interview schedule was used to collect the data from the participants. The collected data was analyzed by using the descriptive and inferential statistics. The major findings of the study includes, in pretest 92% mothers had inadequate knowledge and 8 % had moderate knowledge whereas in post test 93 % had adequate knowledge, remaining 7 % had moderate knowledge and none of them had inadequate knowledge. The paired 't' test value of 28.82 shows that, significant difference between the knowledge score at  $p > 0.001^{***}$ . The Anova 'F' test reveals that education, occupation and the type of family had significant association with knowledge score. This finding of the study depicts that, the mean post test knowledge score of  $82.6 \pm 9.6$  was higher than the mean pretest knowledge score  $36.4 \pm 11.3$ . It's concludes that; Educational module was an effective method to increase the knowledge regarding dengue and its prevention among mothers.

**Keywords:** Effectiveness, Educational module, knowledge, dengue and prevention

### Introduction

Today, many diseases are arising because of the environmental changes that may be caused by human activities and geographical conditions. The Bone breaking or Dengue Fever (DF) is a most important arthropod-borne viral disease in humans. <sup>[1]</sup> The emerging health issue of DF has growing significantly in recent decades. Now, it has become an endemic in more than 100 countries i.e., Africa, Americas, Eastern Mediterranean, South-East Asia and the Western Pacific. Among this, the south –

East Asia region contributes 52% i.e., 1.3 billion cases annually.<sup>[2]</sup> Worldwide nearly 2.5 – 3 billion people (40% of global population) continue to live at constant risk of contracting infection. Especially in India, several fatal forms of the dengue fever have been reported and the incidence has increased more than 30-fold over the last five decades. As per WHO (2014), an estimated 50-100 million dengue infections require hospitalization each year of which

90% are children and around 24,000 deaths were reported annually.<sup>[3]</sup>

### Need for study

Today, the life –threatening fever of Dengue has become a most important cause of high morbidity and mortality of humans especially the children, next to gastro enteritis and respiratory infection.<sup>[4]</sup> Hence, no vaccine is to prevent or control the dengue fever, health education takes major part in the communities and schools in order to reduce the fatality. But, the dengue prevention is solely depends on to control the vector mosquitoes and protects against mosquito's bites. This study abets to reduce the burden of dengue as per global strategy for Dengue prevention and control (2012-2020) i.e., to reduce dengue mortality by at least 50% and morbidity by 25 % by 2020.<sup>[5]</sup> In a view of above, the investigator wants to assess the knowledge and preventive measures regarding the dengue and impart the knowledge through the educational module among mothers. This education aids to increase knowledge of mothers regarding the prevention of dengue and guidance ensures the translation of knowledge into practice.

### Statement of Problem

A Study to Evaluate the Effectiveness of Educational module on Knowledge regarding dengue and its prevention among mothers of under five children attending anganwadi in Vellore district, Tamilnadu, India.

### Objectives

1. To assess the knowledge regarding dengue and its prevention among mothers of under five children before and after educational module.
2. To evaluate the effectiveness of Educational module on knowledge regarding dengue and its prevention among mothers of under five children.

3. To associate the improvement score of overall knowledge regarding the dengue and its prevention with selected demographic variables of mothers.

### Hypothesis

**H<sub>0</sub>**- There is no significant difference between pre and post test knowledge regarding dengue and its prevention among mothers.

**H<sub>1</sub>** . There is no significant association between overall knowledge with demographic variables of mothers.

### Materials and Methods

The pre experimental design, of one group pre and post test design was adopted. The non randomized convenient sampling technique was used to select the samples of sixty mothers who were available and willing to participate in the study. After getting necessary administrative permission and informed consent, pretest was conducted and the same day investigator implemented planned teaching program with educational module. At the end of the session 5-10 minutes were allotted for discussion. After 7 days, post test was conducted. The Conceptual framework was used in this study based on “General System Theory”. It was proposed by Ludwig Von Bertalanffy in (1968).

### Description of the Instrument

The structured interview questionnaires was prepared by the investigator based on the extensive review of literatures, expert's opinions and investigator's personal experience. It consists of two sections.

**Section- I:** It deals with the demographic variables of the subject includes age, education, occupation, religion, type of family, family income and previous history of dengue occurrence.

**Section-II:** It consists of 30 multiple choice questions regarding knowledge of dengue and its prevention. The scores given for the

questionnaires are as follows, for correct answer awarded for '1' score and for wrong answer '0' score. Based on the scores, the level of knowledge are interpreted as  
 < 40%, - Inadequate knowledge  
 40 – 60% - Moderate knowledge and  
 > 60% - Adequate knowledge

The collected data were analyzed by using the descriptive and inferential statistics. The results were interpreted by based on the objectives.

**Results and Discussion**

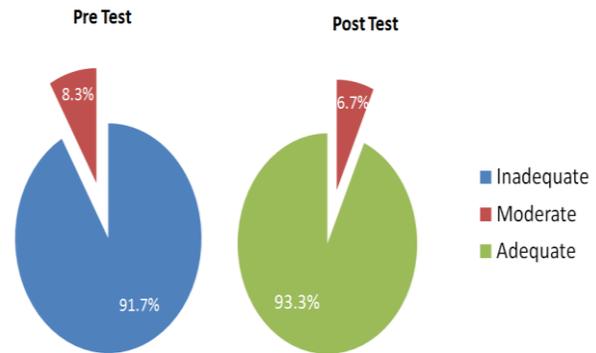
**The pre and post test score of knowledge on dengue and its prevention among mothers of under five children**

- ✓ In the pre test, none of the mothers had adequate knowledge around eight per cent had moderate knowledge and remaining ninety two per cent had inadequate knowledge regarding dengue and its prevention.
- ✓ In the post test ninety three per cent of the mothers had adequate knowledge, remaining seven percent had moderate knowledge and none of the mothers inadequate knowledge regarding dengue and its prevention. This finding was supported by Angel Rajakumari [6] and Sanjeet Johnson [7] reported that knowledge of adolescents on prevention and control of dengue fever was average before structured teaching programme but after the structured teaching programme knowledge was good and excellent.

**The effectiveness of educational module on knowledge regarding dengue and its prevention among mothers**

The table 1 reveals, the improvement mean score was 46.2. The paired 't' test value between the overall pre and post test was 28.82 shows the significance difference between the knowledge score in the pre and post test at  $P > 0.001^{***}$ . The hypothesis of  $H_0$  is rejected, hence there is a significant

difference in the knowledge of mothers regarding dengue and its prevention. This finding was similar with Swapna M K [8] showed the mean pretest score was 11.44 and increased to 18.82 in post test i.e., mean post test knowledge score was higher than the pre test score.



**Figure 1: The bar diagram shows the pre and post test score of the knowledge on dengue and its prevention among mothers of under five children.**

**The association between demographic variables of mothers with improvement score of overall knowledge regarding dengue and its prevention**

The table 2 depicts that there is significant association between the overall improvement in the knowledge scores with demographic variables of mother's age, education and type of family. The hypothesis of  $H_1$  is rejected, hence there is a significant association in the knowledge of mothers regarding dengue and its prevention with selected demographic variables. This finding was supported by following studies, Sandeep K.R. [4] reported that, significant association between age and post test knowledge was found. The Ibrahim NKR [9] et al., found that, secondary education and age are predictors of knowledge score. The Sunil A [10] results revealed that significant association was found in type of family ( $P = 0.019$ ) among mothers.

**Table 1: The effectiveness of educational module on knowledge regarding dengue and its prevention among mothers of under five children.**

Aspects	Pre Test		Post Test		Improvement mean score	Paired 't' test
	Mean	S.D	Mean	S.D		
Knowledge about dengue and its prevention	36.4	11.3	82.6	9.6	46.2	28.82***

**P >0.001\*\*\***

**Table 2: The association between demographic variables of mothers with the improvement score of overall knowledge regarding dengue and its prevention.**

S. No.	Demographic Variables	No.	Pretest –post test mean difference	SD	ANOVA 'F' test	
1	Mother's age	18-23yrs	12	17.2	5.01	3.79 P<0.01* (S)
		24-29 yrs	32	19.73	4.59	
		30-36 yrs	16	20.06	4.16	
2.	Mother's education	No formal education	15	16.16	3.91	3.32 P<0.03* (S)
		Primary	20	19.73	4.64	
		Secondary	19	21.12	4.48	
		H secondary	6	22.5	2.12	
3.	Occupation	Employed	15	19.94	4.72	0.53 P>0.60(NS)
		Unemployed	45	19.26	4.42	
4.	Type of family	Joint	29	21.31	4.55	2.48 P<0.02*(S)
		Nuclear	31	18.4	4.43	
5.	Religion	Hindu	42	19.7	4.62	0.70 P>0.50 (NS)
		Muslim	12	19.45	3.86	
		Christian	6	17.2	4.66	

S- significant, NS- Not significant

### Recommendations

- The similar studies can be initiated in different community settings with general public, schools and colleges.
- A study can be done to assess the attitude and practices of mothers regarding dengue and its prevention.
- Government agencies and other non government organizations should strengthen its programs through issuing Information, Education and Communication materials to the publics, colleges and schools.

- The in service training of community health workers should be conducted regularly to improve their ability to supervise the prevention and control actions.

### Conclusion

Health education takes a major part in prevention and control of dengue in order to reduce the major outbreaks and overwhelming the health care system. This study finding proved that, there was significant difference in the pretest knowledge score when compared with post

test score. The mothers are the primary person to satisfy the needs of care by protecting, comforting, and nurturing their families. So, this educational module has a great influence among mothers about their knowledge which helps in reducing and preventing the dengue occurrence. This study abets to improve the knowledge, increase awareness of mothers and reduce the burden of dengue with heavy impact on public health. But the sustained formal teaching program and reinforcement of education are needed in order to prevent future threat to our country and the world.

### References

- [1] Dr. Janice Rachael Mae. Dengue hemorrhagic fever – The critical phase of dengue fever. Health Guidance For Better Health. 2017. Available in <http://www.healthguidance.org/entry/17286/1/dengue-hemorrhagic-fever--the-critical-phase-of-dengue-fever.html>.
- [2] WHO. Dengue control epidemiology, last updated in 22.12.2016. Available in <http://www.who.int/denguecontrol/epidemiology/en/>
- [3] WHO. Factsheet #387. Vector-borne diseases. March 2014. Available in [http://www.who.int/kobe\\_centre/mediacentre/vbdfactsheet.pdf](http://www.who.int/kobe_centre/mediacentre/vbdfactsheet.pdf).
- [4] Sandeep K.R., Divya Shettigar and Suma Jayappa. An Educational Intervention Programme On Dengue And Its Prevention Among Rural High School Children, Karnataka, India. NUJHS. 2014; 4(1). Available in <http://www.nitte.edu.in/journal/March%202014/109-112.pdf>.
- [5] Dengue-Changing Epidemiology Key facts. Available in [http://www.searo.who.int/india/topics/dengue/dengue\\_factsheet.pdf?ua=1](http://www.searo.who.int/india/topics/dengue/dengue_factsheet.pdf?ua=1).
- [6] Angel Rajakumari.G .Knowledge, Attitude and Practice of impact of Dengue fever infection among nursing students. International Journal of Basic and Applied Sciences. 2015; 4 (3): 174-79.
- [7] Sanjeet Johnson. A Quasi-Experimental Study to Assess the Effectiveness of structured Teaching Programme on Prevention and Control of Dengue Fever Among Adolescents in selected Schools of Ludhiana, Punjab. IOSR – JNHS. 2016; 5(3):45-50.
- [8] Swapna M K. Effectiveness Of Structured Teaching Programme On Knowledge And Attitude Of Prevention And Control Of Dengue Fever To The Common People In Delhi. International Research Journal of Natural and Applied sciences. 2015; 2(9).
- [9] Nahla Khamis Ragab Ibrahim, Adnan Al-Bar, Mohamed Kordey, Ali Al Fakeeh. Corrigendum to “Knowledge, attitudes, and practices relating to Dengue fever among females in Jeddah high schools” J. Infect Public Health. 2009; 2 (1):30-40
- [10] Ansa Sunil, Dr. Angela Gnanadurai<sup>2</sup>, Sr. Tresa Anto<sup>3</sup> Effect of Video Teaching on Knowledge in Prevention and Management of Selected Mosquito Borne Fever among Mothers of Children. Asian J. Nur. Edu. and Research. 2017; 7(1): 35-42.