

Short Communication

AN EDUCATIONAL INTERVENTION PROGRAMME ON DENGUE AND ITS PREVENTION AMONG RURAL HIGH SCHOOL CHILDREN, KARNATAKA, INDIA

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Abstract :

Introduction : Over the past 10-15 years, next to diarrheal disease and respiratory infection, dengue fever has become a leading cause of hospitalization and deaths among children. Today, dengue fever is considered one of the most important arthropod-borne viral diseases in humans in terms of morbidity and mortality. So researcher felt that it is vital that school children should possess knowledge on some vector born diseases especially dengue fever and its prevention.

Method : 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

Results : A total of 60 high school children were included in the study. 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

Conclusion : 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.

Keywords : Dengue fever, Planned teaching programme, Effectiveness, Knowledge, Rural high school children

Introduction :

Health has evolved over the century as a concept from individual concern to a worldwide social goal and encompasses the whole quality of life. Today health is recognized as a fundamental right of human being.² There are two major concerns related to health one is chronic non communicable diseases and another one is communicable

disease like Tuberculosis, Cholera, Dengue fever, Malaria etc. Over the past 10-15 years, next to diarrheal disease and acute respiratory infection, dengue fever has become a leading

cause of hospitalization and deaths among children in the south East Asian region.¹

Dengue fever and dengue hemorrhagic fever are acute febrile disease found in the tropics and caused by four closely related virus serotypes of the genus Flavivirus, family Flaviviridae. It is also known as break bone fever. Dengue spreads by the bite of an infected mosquito *Aedes Aegypti*. The mosquito gets the virus by biting the infected persons.² The first symptoms of the diseases occur about 5-7 days often after an infected bite. The geographical spread includes northern Australia, Argentina, Singapore, Malaysia, India, Srilanka etc. The WHO says some 2.5 billion people, two fifth of the world population are now at risk from dengue and estimated that there may be 50 million cases of dengue infection every year. The disease is now

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epidemic in more than 100 countries.³

Dengue is a tropical disease affecting 110 countries throughout the world and placing over 3 billion people at risk of infection. According to WHO 70-500 million people are infected every year including 2 million who develop hemorrhagic and 20,000 who die. Children are at highest risk for death.³

Today, dengue fever is considered one of the most important arthropod-borne viral diseases in humans in terms of morbidity and mortality. Globally, it is estimated that approximately 50-100 million new dengue virus infections occur annually. Among these, there are 200,000-500,000 cases of potential life threatening dengue hemorrhagic fever or dengue fever, characterized by thrombocytopenia and increased vascular permeability. In India, dengue infection has occurred several times. The rates associated with the more severe form dengue hemorrhagic fever is approximately 5%, predominantly in children under the age of 15.⁴

The only way to control vector borne disease like dengue is directed measures against the mosquitoes.⁴ The above facts created an insight in the investigator mind that by improving the knowledge of school going children through planned teaching programme, the incidence of some vector born diseases especially dengue fever and its prevention may be reduced.

Objectives of the study

- 1 To assess the knowledge level of high school children regarding dengue and its prevention before and after the administration of planned teaching programme.
- 1 To find the association between selected demographic variables and post-test knowledge scores regarding dengue and its prevention among high school children

Materials and Methods :

This cross sectional study was undertaken in Government high school, kadalu village , Alur , Hassan with the approval from the School head master and Institution Ethical committee. The study consisted of 60 high school children of 10th standard. Adolescents were selected by probability

simple random sampling. The participants were briefed about the nature of the study, consent was taken and a pre-tested structured questionnaire was administered to them. Data that recorded include general data comprised of age, religion family type, educational status of father, educational status of mother, family income per month, type of family, type of house, previous history of occurrence of dengue and source of information. Then the researcher had administered Planned-teaching programme for the students. Post-test was conducted to know the effectiveness of planned-teaching programme.

Results :

Main findings are discussed under the following headings :

SECTION I : Description of Sample Characteristics

Distribution of high school students according to the demographic characteristic

- 1 Majority 72% children were in the age group of 15 years and 28% of children were in the age group of 16 years.
- 1 Distribution according to their gender reveals that 70% of children were male and 30% of children were female.
- 1 Based on religion 77% of children were belong to Hindu and 12% Christian and 12% to Muslim.
- 1 Distribution in relation to type of family reveals that 70% belong to nuclear family, 30% of children were belonging to joint family.
- 1 Distribution according to their father's education reveals that 77% of them had primary education, 7% had secondary education, 8% had pre-university education , 8% were post graduates.
- 1 Distribution in relation to their Mother's education reveals that 77% had primary education, 7% secondary education, and 17% had no formal education.
- 1 Depending on family monthly income 37% had income less than Rs1000, 57% of them were in the range between Rs1001-3000, 20% had between Rs3001-5000 and 7% had more than Rs5001 and above.
- 1 Distribution of rural high school children in relation to their type of house reveals that 57% of houses were kuccha houses, 32% puccha houses, and 12% semi puccha houses.

- 1. Distribution in relation to occurrence of dengue reveals that 55% had previous history of dengue fever and 45% of school children did not had previous history of dengue fever.
- 2. Distribution of high school children according to Source of information reveals that 60% had information from health workers, 22% Television or radio, 8% neighbours/friends and 10% from news paper.

SECTION II : Comparison Of Pretest & Post Test Knowledge Of High School Children On Dengue & Its Prevention

Table 1 : Distribution of pretest knowledge level among high school school childrens N=60

Level of knowledge	Max score	Pre test		Post test	
		n	%	n	%
Poor knowledge	0-6	30	50	0	0
Average knowledge	7-12	29	48.33	2	3.33
Good knowledge	13-18	1	1.67	41	68.34
Very good	19-24	0	0	17	28.33

SECTION III : Effectiveness Of Planned Teaching Programme

Table 2 : Mean, SD, Mean% of the knowledge scores in pre-test and post-test. N=60

RESPONDENTS KNOWLEDGE LEVEL						't' Value
Pretest		Post-test		Effectiveness		
Mean ±SD	Mean%	Mean ±SD	Mean%	Mean ±SD	Mean%	
6.78±2.29	28.25%	17±2.61	70.83%	10.22±3.13	42.58%	25.31 S
*t'59 = 2.06		P <0.001		S-Significance		

SECTION IV : Association Between Posttest Knowledge Score And Selected Demographic Variables. N=60

Sl no	Variables	Degree of freedom	Chi Square value	result
1	Age	1	7.32	3.84 S
2	Sex	1	0.041	3.84 NS
3	Religion	2	1.79	5.99 NS
4	Family system	2	1.79	5.99 NS
5	Education of father	3	3.92	7.82 NS
6	Education of mother	2	0.363	5.99 NS
7	Monthly income	2	3.39	5.99 NS
8	Type of house	2	0.154	5.99 NS
9	Previous information	1	0.622	3.84 NS
10	Source of information	3	3.28	7.82 NS

NS* Not significant, S* significant, $C^2_1=3.84$, $C^2_2=5.99$, $C^2_3=7.82$; $p < 0.05$. The above table 3 results that there is significant association between age and post test knowledge score ($C^2_1=3.84$).

Discussion :

Dengue is a severe Infectious and life threatening communicable disease which is a major health problem in

the community. Dengue is a mosquito borne infection that causes a severe flu- like illness. Dengue is found in tropical and sub- tropical regions around the world. Unlike malaria, dengue is just as prevalent in the urban districts of its range as in rural areas. It is very essential to educate the school going children on some preventive measures like improving sanitation and avoiding mosquito bites and prevent reoccurrence of dengue fever.

From the data analysis and findings of the study, it is concluded that there was a significant difference between the pretest and posttest knowledge scores of rural high school children on dengue and its prevention. The mean knowledge score of high school children during pre-test was 28.25% where as it was increased up to 70.83% during the post-test as an effectiveness of structured teaching programme. The difference assessed was 42.58% . Therefore the knowledge of the rural high school children can be further improved by providing on-going teaching and health education programmes.

Our study denoted that the pretest knowledge score of high school students were low which is in concordance with other study conducted in Jeddah high schools , Saudi Arabia on high school students, teachers and supervisors towards Dengue fever. A total of 2693 students, 356 teachers and 115 supervisors completed self-administered questionnaires. Students obtained the lowest mean knowledge score compared to the other two groups ($F=51.5$, $P < 0.001$). The researcher concludes School-based educational campaigns should be conducted to raise knowledge which is needed for controlling dengue and other epidemics.⁵

The findings of the study revealed that there was significant increase in the posttest knowledge score after the administration of health teaching. The over-all mean knowledge comparison reveals that pre-test mean score was 6.78 and mean post-test score was 17. The significant difference was calculated by using student independent 't' test with a value of 25.31 which is relevant to the study conducted to evaluate college students on food safety attitudes, beliefs, knowledge, and self-reported practices

and to explore whether these variables were positively influenced by educational intervention. Out of 59 Students, The result revealed that Students' attitude scores increased from 114 to 122 ($p < \text{or} = .001$); FSQ belief and knowledge scores improved from 86 to 98 ($p < \text{or} = .001$) and from 11 to 13 ($p < \text{or} = .001$), respectively due to educational intervention.⁶

Conclusion :

The present study has found that rural high school children had poor knowledge on dengue and its prevention. A significant number of students were unaware of preventive measures. Various awareness programmes for school children regarding communicable diseases should be

arranged by administrators with up to date knowledge, so that they can implement in their day to day life.

The limitations of this study included the absence of a comparative group, the small sample size.

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