International Journal of Interdisciplinary and Multidisciplinary Research (IJIMR)

ISSN 2456–4567

Effectiveness of Planned Teaching Programme on Knowledge of School Going Children Regarding Dengue Fever in a Selected Government School, Ankoli, Berhampur, Ganjam, Odisha

Sasmita Nayak [1*]
Mrs. Bijayalakshmi Dash [2]
Mrs. Kamala Dei [3]

[1]Tutor, Department of community health nursing, college of nursing, KalingaInstitute of Nursing Sciences (KINS), KIIT deemed to be University, Bhubaneswar, Odisha, India
[2] Lecturer, Community Health Nursing, College of Nursing, Berhampur, Ganjam, Odisha, India
[3] Clinical instructor, Department of Medical Surgical Nursing, College of Nursing, Berhampur, Ganjam, Odisha, India

Abstract

Background: Dengue is a very significant world public health problem which has largely been ignored in the developed world.**Objectives :** To find out the effectiveness of planned teaching programme on knowledge of school going children regarding dengue fever and find the association between posttest knowledge scores with their selected demographical variable. **Methods:** Data were collected from fifty school going children selected through simple random sampling technique, by using self-structured questionnaire from 17.4.2017 to 2.5.2017. **Results:** Highest percentages (50%) of the school children were in 11-12 years of age group. 56% of them were female. 62% of them were studying in sixth class. The overall pre-test mean knowledge score was 10.02±4.04 which was 29.47% of the total score whereas in post-test it was 25.24 ± 5.00 which was 74.23% and effectiveness was 44.76%. Further highly significant ($p<0.05$) difference was found between pre and post-test knowledge score whereas no significant ($p<0.05$) association was found between post-test knowledge score and all the selected demographic variable of the school going children revealing effectiveness of planned teaching programme.**Conclusion:** Findings of the study revealed that the knowledge of the school going children regarding dengue fever and its prevention were less before the introduction of PTP. Hence it can be concluded that PTP was an effective strategy for providing information and to improve knowledge of school going children regarding dengue fever. and this PTP can be utilized in creating awareness programme in prevention and control of dengue fever.

Key word–1.Dengue fever 2. Effectiveness3. Planned Teaching Program 4.School Children

Introduction

Dengue is a very significant world public health problem which has largely been ignored in the developed world.Nowadays, Dengue Fever is the most common health concern of the world among all communicable disease and it is significant to address this issue because it is a rapidly growing vector borne disease with potential fatal complications caused by infection of dengue virus that spread through the bite of infected female aedes mosquito.[1]

Incubation period of Dengue Fever is 3-12 days. Though the fever can attack anybody, the persons with a weak immune system are at greater risk than others.[2]Typically, people infected with dengue virus are asymptomatic (80%) or have only mild symptoms such as an uncomplicated fever. Others (5%) have more severe illness, and in a small proportion it is life-threatening.[3]The disease is characterized by fever, head ache, muscle and joint pains and rash resembles measles. The presence of muscle and joint pains gives an alternative name to the dengue fever as 'break bone fever'.[4]

According to WHO report 2016, an estimated 390 million dengue infections occur worldwide annually, of which 96 million people with Dengue hemorrhagic fever require hospitalization each year. Approximately 90 percent of them are children and 2.5 percent of them die. The fatality rate is 1.5 percent, may exceeds 20% if untreated and less than 1 percent with adequate treatment.[5] In India the risk of dengue has shown an increase in recent years due to rapid urbanizations, life style changes and deficient water management including improper water storage practices in urban, peri-urban and rural areas, leading to proliferation of mosquito breeding sites. About 90% of dengue fever is seen among school children because school playgrounds and buildings are considered as potential mosquito breeding sites. The disease has a seasonal pattern i.e. the cases peak after monsoon, and it is not uniformly distributed throughout the year.[6]

Outbreak of dengue in different parts of Odisha has led to panic among people. The number of dengue infected persons in the state is increasing day by day. Up to July 2016, it is estimated that 4,218 confirmed dengue cases were reported from various districts.[7] The disease is quite severe in young children as compared to adults. Dengue reinfection is observed to be more severe in children due to immunological phenomenon.[8]There is no specific treatment for Dengue / Severe Dengue, but early detection and access to proper medical care lowers fatality rates below 1%. When infected, early recognition and prompt supportive treatment can substantially lower the risk of developing severe disease.[9]

In the absence of an effective vaccine that protects humans from dengue,limiting contact between people and vectors is the most effective way to preventdengue infections. Environmental management approaches involve eliminating thecontainer habitats in which Aedes aegypti lay their eggs. Chemical control involvesthe use of insecticides to kill immature or adult mosquitoes.[10]

Every aspect of dengue viral infection continues to be a challenges; the pathogenesis of severe dengue disease is not known, no vaccine is not yet available for protection and the vector control measures are inadequate.[11] Creating awareness about dengue fever, its controlling measures among the people appears to be the single opportunity for preventing dengue fever in the world today. If the school children understand about the dengue fever and its controlling measures, then they can educate their parents and other people. Therefore knowledge of the school children about dengue fever should be considered as a matter of great concern.

Methodology

Objectives of The Study:

1. To assess the knowledge of school going children regarding dengue fever.

2. To find out the effectiveness of planned teaching programme on knowledge of school going children regarding dengue fever.

3. To find the association between posttest knowledge scores of the school going children regarding dengue fever with their selected demographical variable.

Hypotheses:

H01: There will be no significant difference between the pre and post-test knowledge of school going children regarding dengue fever.

H02: There will be no significant association between post-test knowledge scores of school going children regarding dengue fever with their selected demographic variables.

Operational Definitions

Effectiveness: In this study effectiveness refers to the extent to which the planned teaching programme has achieved the desired effect in improving the knowledge of school going children regarding prevention and control of Dengue Fever as evidenced by gain in mean post-test knowledge score.

Planned teaching programme: In this study planned teaching programme refers to the systematically developed teaching plan formulated by the investigator to provide the information to school children regarding dengue fever with the help of AV aids. It includes definition, causes, sign and symptoms,investigation, medical management, complications, prevention, and control of Dengue Fever.

Knowledge: In this study knowledge refers to the correctresponse obtained from school children regarding Dengue Fever as measured by structured knowledgequestionnaire.

Dengue Fever: Dengue fever is viral disease that is seen in tropical countries which is transmitted by mosquito,that causes sudden feverand acute pain in the joints.

School going children:-School going children are students between the age of 6 to 12 years of selected school of Ankoli.

Research design: The research approach adapted for thestudy was quantitative approach. The research design used in the present study is quasiexperimental one group pre-test post-test design.

Variables

Dependent variables: Knowledge levels of school children regarding prevention and control of Dengue Fever.

Independent variables: Planned teaching programme on prevention and control of Dengue Fever. Sampling selection criteria

Inclusion criteria: 50 school going children who are studying in Project Upper Primary School, Ankoli, Berhampur, Ganjam; Odisha.

Exclusion criteria: School children who are not available at the time of data collection.

Sampling technique: In this study a systematic random sampling technique is used to select 50 samples.

Description of tool

Section A: This section included itemsseeking information on demographicprofile of sample such as age, sex, class, education of father, education of mother, type of family, type of house, and any previous source of information

Section B: A structured questionnaire was prepared consisting of 34 items on knowledge of school going children regarding dengue fever and its prevention. The scoring system for items was one score for correct answer and zero score for wrong answer. The level of knowledge was categorized based on the percentage of score obtained.

Data Collection Procedure: Prior to data collection written permission was obtained from the Head Mistress of Project Upper Primary School, Ankoli, Berhampur, Ganjam; Odisha. A sample of 50 was selected by using systematic random sampling method. A structured knowledge questionnaire was administered to assess the pre-test knowledge level and the planned teaching programme was given on the same day. Post-test was conducted on the 7^{th} day with the same structured knowledge questionnaire.

Results

Knowledge level regarding prevention and control of Dengue Fever was assessed using a structured knowledge questionnaire and data regarding pre-test and post-test knowledge score was analyzed by using descriptive statistics, which is represented in Table I and Figure 1 shows that in post-test most of the subjects (66%) had good knowledge score ranging between 23-34, whereas in the pre-test majority of the subjects (72%) had poor knowledge having score ranging from 1-11. In the pre-test 22% subjects had average knowledge score ranging between 11-22, but in the post-test none of the subjects had scored poor knowledge. The data in Table 2 and Figure 2 shows that mean percentage knowledge score of pre-test was highest (29.71%) in the area of sign, symptoms and complication of dengue fever and least (25.09%) in the area of control and prevention. In post-test mean percentage knowledge score was highest (86%) in the area of control and prevention and least (72%) in the area of management.

In order to find out the significance of difference between the pre-test and post-test knowledge score regarding prevention and control of Dengue Fever paired 't' test was used and the data is presented in Table 4 revels that the mean post-test knowledge score (25.24) was higher than the mean pre-test knowledge score (10.02). The computed 't' value ($t=25.22$; $P<0.05$) showed a significant difference suggesting that the PTP was effective in increasing the knowledge of the school going children regarding prevention and control of Dengue Fever. Hence the null hypothesis H01 was rejected and the research

hypothesis was accepted. In Table -5 Chi-square was calculated to find out the association between the post-test KS of the school going children with their demographic variables regarding dengue fever reveals that no significant association was found between post-test knowledge score when compared to age, sex, class, education of father, education of mother, type of family, type of house and previous source of information which shows no significant association with the knowledge score & demographic variables of school going children as the calculated value is less than the tabulated value. Hence it can be interpreted that the difference in mean score related to their demographic variables were not true difference and only by chance. So the null hypothesis was accepted.

Table – 1 - comparison of pre and post-test knowledge score of school going children

N=50

Grading of knowledge score	Range of score	Pre-test		Post - test	
		Frequency	Percentage	Frequency	Percentage
Poor	1-11	36	72%	0	0
Average	12-22	11	22%	17	34%
Good	23-34	3	6	33	66%

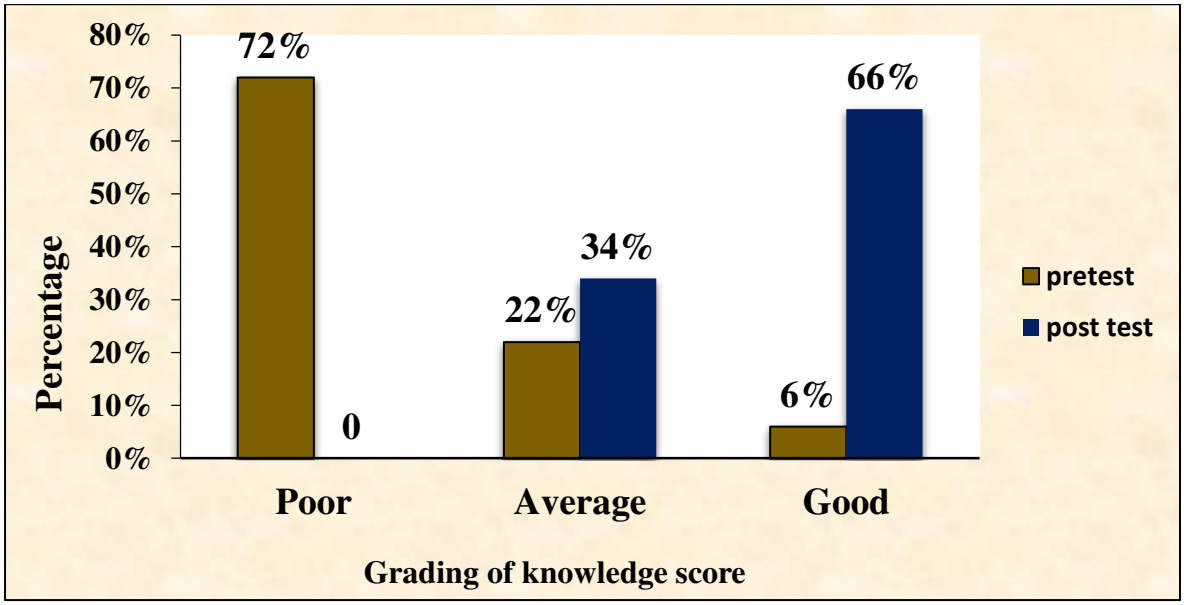

Fig.No.1:- Bar Graph showing comparison of pre and post-test knowledge score of school going children

Table No. 2- Area wise comparison of mean, SD & mean percentage of pre and posttest knowledge score of school going children regarding dengue fever

Area	Max. Score	Pre-test			Post-test			Difference in Mean %
		Mean	SD	Mean %	Mean	SD	Mean %	
Definition & its causes	7	4.9	1.17	25.14	5.9	**0.83**	84.23	59.08
Mode of transmission of dengue fever	5	1.42	1.04	28.41	4.16	1.04	83.21	54.8
Signs, symptoms and complications of dengue fever	5	2.08	1.12	29.71	5.62	0.84	80.28	50.57
Management	4	1.16	0.67	29	2.88	0.71	72	43
Control and prevention	11	2.76	1.67	25.09	9.46	1.28	86	60.91
Overall Total	**34**	**9.18**	**2.32**	**26.91**	**28.02**	**2.53**	**82.41**	**55.5**

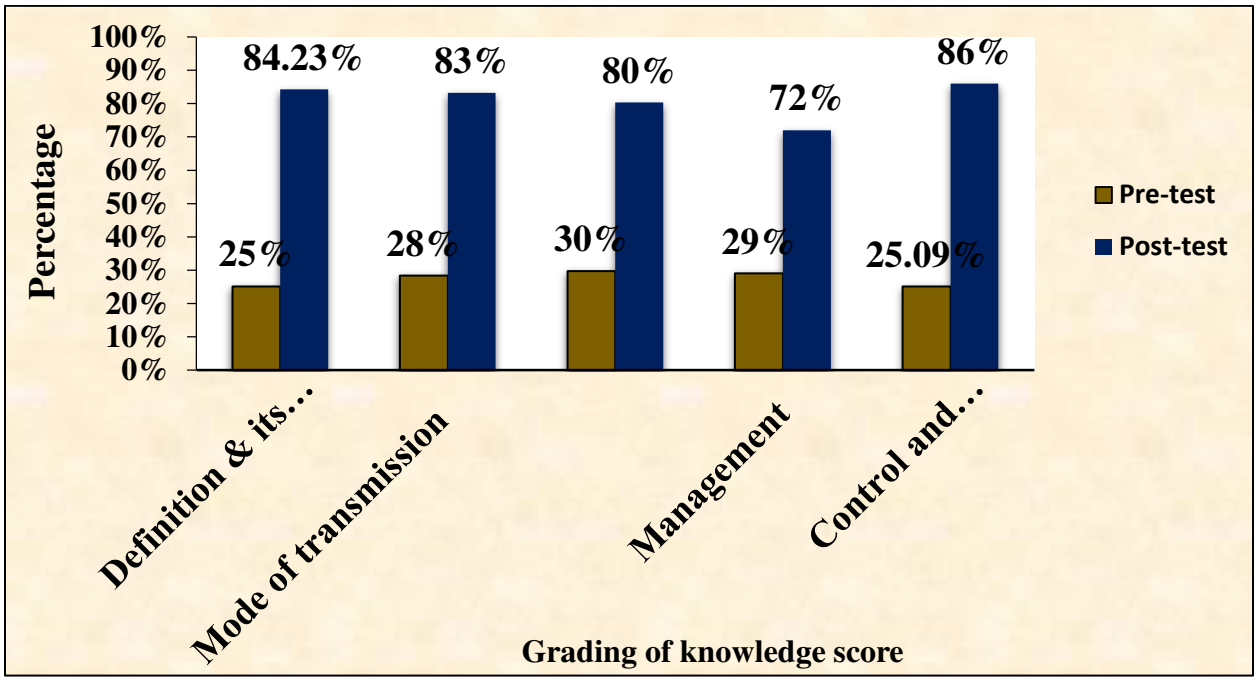

Fig.No.2:- Bar Graph showing area wise comparison of mean percentage of pre and posttest knowledge score of school going children regarding dengue fever

Table No. 3- Mean, Mean difference, SD and 't' value of pre-test and post-test knowledge score regarding prevention and control of Dengue Fever

N=50

Knowledge score	Mean	SD	Mean Difference	't' Value
Pre-test	10.02	4.04	15.22%	25.22
Post-test	25.24	5.00		

Table No. 4- Association between post-test KS of the school going children with their demographic variables.

N=50

Sl. No.	Demographic Variable	χ^2 value	Level of significance
1.	Age (in yrs)	0.08	Not significant
2.	Sex	0.79	Not significant
3.	Class	0.08	Not significant
4.	Education of father	2.07	Not significant
5.	Education of mother	0.01	Not significant
6.	Type of family	0.11	Not significant
7.	Type of house	0.02	Not significant
8.	Source of information	0.32	Not significant

Table value 3.84, df-1, and Level of significance 0.05

Disscussion

Findings of this revealed that in post-test most of the subjects (66%) had good knowledge score ranging between 23-34, whereas in the pre-test majority of the subjects (72%) had poor knowledge having score ranging from 1-11. In the pre-test 22% subjects had average knowledge score ranging between 11-22, but in the post-test none of the subjects had scored poor knowledge. Similar findings were found out another study conducted in Mangalore which revealed that in post-testmost of the subjects (56.67%) had good knowledge scoreranging between 17-24, whereas in the pre-test majority of thesubjects (90%) had average knowledge ranging between 9-16.In the pre-test 10% subjects had poor knowledge score rangingbetween 1-8, but in the post-test none of the subjects hadscored poor knowledge.[12]

The mean post-test knowledge scores (25.2) was higher than the mean pre-test knowledge scores (10.02) suggesting the PTP helped in improving the knowledge of school going children regarding prevention and control of Dengue Fever. The study finding was supported by a study conducted by Sandeep K.R., Divya Shettigar & Suma Jayappa (2014) regarding an educational intervention programme on dengue and its prevention among rural high school children, Karnataka, India who stated that during pretest the school children obtained mean score (6.78±2.29) which was 28.25% of the total score whereas it was (17±2.61) which was 70.83% of the total score and showing a difference in effectiveness of 42.58% and having good knowledge.[13]

The finding of the study showed significant increase in posttest knowledge and the computed 't' value (t 25.22) was found to be significant. These findings were consistent with another study conducted to assess the effectiveness of health education on knowledge of dengue feverand preventive measures among high school students in a selected private school,Malaysia by Su Wei Ng, SokYee Lim, Mini Rani Mary Beth (2015) in which comparison of pre-test and post-testlevel of knowledge was assessed on paired t-test with the significant confidence of 0.05. The results revealed highly significant improvement in the level of knowledge at P=0.05 levels. The percentage difference between pretest and posttest knowledge gain was 45% with 95% confidence interval.[14]

Chi-square was calculated to find out the association between the post-test KS of the school going children with their demographic variables regarding dengue fever reveals that no significant association was found between post-test knowledge score when compared to age, sex, class, education of father, education of mother, type of family, type of house and previous source of information which shows no significant association with the knowledge score & demographic variables of school going children as the calculated value is less than the tabulated value. Similar findings were found in another study conducted by Sandeep K.R. where no significant association was found out between the posttest knowledge score and sociodemographic variable except age.[13]

Recommendations

- Similar studies can be conducted in a large sample for drawing better conclusion and make generalization.
- A comparative study can be conducted on knowledge and practice of school going children regarding dengue fever between rural and urban area.
- A self-instruction module or an information booklet can be prepared and tested for its effectiveness

Conclusion :

The present study has found that school going children had poor knowledge on dengue and its prevention. A significant number of children 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.

Limitations of the study included small group (50) of the school going children that limits the generalization of the findings to the sample only, no control group, tool was used to measures only the cognitive domain of the school children on dengue fever.

Acknowledgement :

I would like to express our gratitude to the Project Upper Primary school childrens , Ankoli, Berhampur, Ganjam, Odisha. I would equally thank my esteemed guide Mrs. Bijayalaskhmi Dash, Lecturer, and Mrs. Kamala Dei, Clinical Instructors, College of Nursing,Berhampur, Odisha for their constant guidance, scholarly supervision, valuablesuggestions and advice.

References

1. Innovative practices and collaborative care for health. Indian Journal on Nursing 2014 Nov; 4.
2. Chen LH & Wilson ME, "Dengue and chickungunya infection in travellers, Current opinion infectious disease, 2010, October, 23(5), Pp-438-444.
3. N.Bharathi, S.Karthikayan and C.M.Ramakritinan. 2015, Prevalence and risk factors of dengue vector infestation in schools at Dindigul, Tamil Nadu, India, International journal of fauna and biological studies, Vol-1, Pp- 38 – 42.
4. Samntha H et al,2015,Difference in Dengue Severity in Infants, Children and Adults in a three year hospital based study at Nicarragua, The American Society of Tropical Medicine and Hygiene, December, 73(6), Pp-1063-1070.
5. National Guidelines for Clinical Management of Dengue Fever, Government of India; World Health Organization; 2015; Pp-7-10.
6. Guidelines for clinical management of dengue fever, dengue hemorrhagic fever and dengue shock syndrome; National Vector borne Disease Control Programme (NVDCP), Government of India, 2014; Pp-15-19.
7. Gupta N et al, "Dengue in India Indian", Journal of Medical Research, 2012, September, 136, Pp - 373-390.
8. John shine, Anoop Thampi , Ms. Anu Kuriakose, Sr. Jino , Sr. M. Kaiziia, Sr. Metty, Ms. Roshni and Ms. Sheena, 2018. "A study to assess the effectiveness of planned teaching programme on knowledge regarding prevention and control of Dengue Fever among 1st year B. Sc. nursing students in a selected college of nursing at Mangalore", International Journal of Development Research, 8, (12), 24513-24516.
9. Sandeep K.R, Shettigar D, & Jayappa S,2014, An Educational Intervention Programme On Dengue and its Prevention Among Rural High School Children, Karnataka, India; Nitte University Journal of Health Science; March; 4 (1); Pp-109-112.
10. Su WN et al, 2016, "A study to determine the effectiveness of health education on knowledge of dengue fever and preventive measures among high school students in a selected private school, Malaysia"; International Journal of Contemporary Pediatrics; May;3(2); Pp-553-558.