



EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PREVENTION OF DENGUE FEVER AMONG ADULTS IN SELECTED URBAN AREA OF IMPHAL WEST DISTRICT, MANIPUR

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ABSTRACT

Dengue is one of the most common life-threatening public health problems in the world. Dengue being a preventable disease, it is noteworthy that community awareness and participation are essential to prevent and control the spread of infection. **Objectives of the Study:** 1) To assess the pre-test level of knowledge regarding prevention of Dengue fever among adults. 2) To determine the effectiveness of Structured Teaching Programme on knowledge regarding prevention of Dengue fever among adults. 3) To determine the association between the pre-test level of knowledge score of adult with selected socio-demographic variables such as age, gender, religion, educational status, occupation, family income, type of family, methods of waste disposal, source of drinking water and type of drainage etc. **Methods And Material:** The research design used in this study was one-group pre-test post-test interventional research design, conducted at Singjamei Chingamakha Kshetri Leikai, Imphal West District, Manipur. 70 samples were selected by using non probability convenience sampling technique. Pre-test was conducted by using self-structured knowledge questionnaire consisting of 30 multiple choice questions followed by administration of structured teaching programme. Post-test was conducted after 2 weeks by using the same questionnaire. The data was analysed based on the objectives of the study by using descriptive and inferential statistics. **Result:** In the pre-test, 38(54.29%) of respondents had inadequate knowledge and the remaining 32(45.71%) had moderately adequate knowledge. Whereas in the Post-test, respondents 65(92.86%) had gained adequate knowledge and the remaining 5(7.14%) of the respondents had moderately adequate knowledge. Hence, the study shows that there is enhancement in their knowledge regarding prevention of Dengue fever after Structured Teaching Programme. Mean percentage score of the respondents in pre-test was found to be 14.87 with standard deviation of 3.21 which is quite low in comparison with the corresponding score in the post-test that is 26.19 with standard deviation of 2.58. The calculated chi-square showed that there is no significant association between their pre-test level of knowledge score with selected socio-demographic variables except age of the respondents. **Conclusion:** The study concluded that there was significant enhancement in their knowledge levels after Structured Teaching Programme. Hence, it shows that Structured Teaching Programme was effective

KEYWORDS

Knowledge, Prevention, Dengue fever, Structured Teaching Programme, Adult.

INTRODUCTION

Dengue fever is one of the most rapidly spreading mosquito borne viral disease of mankind. With a 30-50 fold increase in global incidence over the last few decades, it is identified as one of the 17 neglected tropical diseases by WHO and PAHO.

Female *Aedes aegypti* is the primary vector and *Aedes albopictus* as a secondary vector that cause dengue fever. There are four different serotypes of dengue virus (DENV-1, DENV-2, DENV-3 and DENV-4) circulating in the world. Among all the four serotypes of Dengue, serotype-2 (DENV-2) is the most common serotype and had the maximum percentage of cases of severe dengue. Primary infection with certain serotype is usually asymptomatic or manifest as a mild illness although they can cause haemorrhagic fever in some patients. But subsequent infection or secondary infection with different serotype manifest dengue haemorrhagic fever or dengue shock syndrome.

Dengue is primarily a disease of unhygienic and peri-urban and slum areas, where there is a high tendency of storing domestic water and promiscuous disposal of household waste. The mosquitoes breed in stagnant fresh water which are collected in cooler, broken bottles, pots, tree holes and even in the plastic bags thrown around the house. Since Dengue fever outbreak evolve quick emergency actions to control infected mosquitoes in order to interrupt or reduce transmission eliminating breeding sites is important. In order to meet such emergencies, it is essential that persons at all levels- household level, school, community level and public health personnel actively contribute to prevent the spread through awareness and community participation.

RESEARCH METHODOLOGY

The objectives of the study were to assess the pre-test level of knowledge regarding prevention of Dengue fever among adults; to determine the effectiveness of Structured Teaching Programme on knowledge regarding prevention of Dengue fever among adult; to determine the association between the pre-test level of knowledge score of adults with selected socio-demographic variables such as age, gender, religion, educational status, occupation, family income, type of family, methods of waste disposal, type of drainage and source of

drinking water etc. The present study was conducted a Singjamei Chingamakha Kshetri Leikai, Imphal West District, Manipur.

Prior to the study, a formal written permission was obtained from the concerned authority of the selected area to conduct the study as well as from the participants. After obtaining the consent, the purpose of the study was explained to the participants. 70 samples were be selected by using non-probability convenience sampling technique. Pre-test was conducted by using pre-tested self-Structured Questionnaire followed by administration of Structured Teaching Programme for 45 minutes to 1 hour. Post- test was conducted after 14 days using the same questionnaire. Duration of data collection was 5 weeks which was from 11th June to 13th July 2024.

Plan for data analysis

Descriptive statistics: Frequencies and Percentage Distribution were used to analyze demographic variables. Mean and standard deviation were used to assess the individual knowledge score of adults regarding the knowledge of prevention of Dengue fever.

Inferential statistics:

- Paired 't' test is used to find out the effectiveness of structures teaching programme.
- Chi-square χ^2 test to determine the association between the pre-test knowledge score with the selected demographic variables.

RESULT:

SECTION I: Description of Demographic Variables of the Sample. Table 1: Frequency and Percentage Distribution of the Sample.

N=70

Socio-demographic characteristics	Category	Frequency (n)	Percentage (%)
Age group	20-30	10	14.29
	31-40	18	25.71
	41-50	22	31.43
	51-60	20	28.57
Gender	Female	48	68.6
	Male	22	31.4
Marital Status	Single	14	20
	Married	56	80

Religion	Hindu	48	68.6	
	Christian	10	14.3	
	Others	12	17.1	
Educational status	Non formal education	10	14.3	
	Up to matriculation	20	28.6	
	Up to 12th standard	21	30.0	
	Graduate and above	19	27.1	
Occupation	Government	11	15.7	
	Private	25	35.7	
	Self-employed	14	20.0	
	Unemployed	20	28.6	
Family income	Rs <10000	28	40	
	Rs 10001-20000	22	31.4	
	Rs 20001- 30000	10	14.3	
	Rs 30001 and above	10	14.3	
Previous history of Dengue fever	No	57	81.43	
	Yes	13	18.57	
Who	Parents	1	7.69	
	Sibling	1	7.69	
	Myself	4	30.77	
	Son	5	38.46	
	Daughter	2	15.39	
When	1 month- 6 months before	1	7.69	
	6 months to 12 months before	11	84.62	
	2 years before	1	7.69	
Previous source of information	No	46	65.7	
	Yes	24	34.3	
	Specify	Health professionals	11	45.83
		Social media	13	54.17
Types of houses	Pucca	47	67.1	
	Semi- pucca	23	32.9	
Types of drainage	Open drainage	60	85.7	
	Close drainage	10	14.3	
Method of waste disposal	Burning	10	14.3	
	Municipal waste collection	60	85.7	
Sources of water supply	Tap water	59	84.3	
	others	11	15.7	

- The data in the table shows that, the majority 22(31.43%) of the respondents were between the age of 41-50 years. Regarding the gender, majority of the 48(68.57%) respondents were female.
- In terms of marital status, majority of the respondents 56(80%) were married. With respect to religion, majority 48(68.6%) respondents were Hindu. Regarding the educational status majority 21(30%) of them were between 12th standard,
- According to their occupation, majority of the respondents 25(35.7%) were private employee. With respect to their monthly family income, majority 28(40%) respondents' income were below Rs 10000.
- With regards to the previous history of dengue fever in the family, majority 57(81.43%) respondents had no previous history.
- According to the previous sources of information, maximum of the respondents 46(65.7%) had no previous information related to dengue.
- Regarding the type of house, majority of the respondents 47(67.1%) stays in Pucca house. With respect to the type of drainage system, maximum of the respondents 60(85.7%) had open drainage system.
- Regarding the methods of disposing waste, maximum 60(85.7%) of the respondents disposed their waste in Municipal waste collection. In terms of sources of water supply, majority of the respondents 59(84.3%) use tap water.

SECTION II: To determine the effectiveness of Structured Teaching Programme on knowledge regarding prevention of Dengue fever by conducting pre-test and Post-test.

Table 2: Classification of knowledge level bases on the Pre-test and Post-test.

Knowledge Level	Pre -test f (%)	Post -test f (%)
Inadequate	38(54.29%)	0(0.00%)
Moderately Adequate	32(45.71%)	5(7.14%)
Adequate	0 (0.00%)	65(92.86%)

The above table, shows classification of respondents' knowledge regarding the dengue fever. In the pre-test, 54.29% had adequate

knowledge and 45.71% had moderately adequate knowledge with none demonstrating adequate knowledge. In the post-test, 92.86% achieved an adequate level of knowledge, 7.14% maintained a moderately adequate level, and none remained in the inadequate category.

Table 3: Aspect-wise and Overall Effectiveness of Structured Teaching Programme (STP) on Knowledge Regarding Prevention of Dengue Fever Using Paired t-test

Area wise knowledge questions	Maximum Score	Pre-test (Mean±SD)	Post-test (Mean±SD)	Paired t-value	p-value
General knowledge regarding Dengue fever	21	10.33±2.49	18.8 ±2.16	28.33	<0.05
Knowledge regarding prevention of Dengue fever	9	4.54±1.58	7.37±1.13	13.63	<0.05
Overall mean, mean percentage and standard deviation	30	14.87±3.21	26.19±2.59	29.91	<0.001

Table 3 evaluates the effectiveness of the Structured Teaching Programme (STP). The mean score for general knowledge of Dengue fever rose from 10.33±2.49 to 18.8 ±2.16 (t=28.33, p<0.05), while knowledge of dengue prevention increased from 4.54±1.58 to 7.37±1.13 (t=13.63, p<0.05). cumulatively, the overall mean score increased from 14.87±3.21 to 26.19±2.59, yielding a highly significant paired t- value of 29.91(p<0.001). this confirms that the STP was highly effective.

SECTION III: To determine the association between the pre-test level of knowledge score of adults with selected socio-demographic variables

Table 4: Association between pre-test level of knowledge scores of adults with selected socio-demographic variables regarding prevention of dengue fever.

Demographic Variable	Category		Total %	Chi-square X ²	df	p	
Age	20-30 years		10(14.29%)	8.449	3	S (7.815)	
	31-40 years		18(25.71%)				
	41-50 years		22(31.43%)				
	51-60 years		20(28.57%)				
Gender	Female		48(68.6%)	0.001	1	NS (3.841)	
	Male		22(31.4%)				
Marital status	Single		14(20%)	2.432	1	NS (3.841)	
	Married		56(80%)				
Religion	Hindu		48(68.6%)	1.161	2	NS (5.991)	
	Christian		10(14.3%)				
	Others (Sanamahi)		12(17.1%)				
Educational status	Non-formal education		10(14.3%)	7.549	3	NS (7.815)	
	Up to matriculation		20(28.6%)				
	Up to 12 th standard		21(30%)				
	Graduate and above		19(27.1%)				
Occupation	Govt. employee		11(15.7%)	2.538	3	NS (7.815)	
	Private employee		25(35.7%)				
	Unemployed		14(20%)				
	Self-employed		20(28.6%)				
Family income	Rs≤10000		28(40%)	4.637	3	NS (7.815)	
	Rs 10001-Rs 20000		22(31.4%)				
	Rs 20001- Rs 30000		10(14.3%)				
	Rs30001 and above		10(14.29%)				
Previous sources of information	No		46(65.7%)	0.00	1	NS (3.841)	
	Yes		24(34.3%)				
	Specialty	Health professional	11(45.83%)	0.621	1	NS (3.841)	
		Social media	13(54.17%)				
Previous history of dengue in the family	No		57(81.43%)	0.338	1	NS (3.841)	
	Who	Yes					13(18.57%)
		Parent	1(7.69%)	4.761	4	NS (9.488)	
		Sibling	1(7.69%)				
		Myself	4(30.77%)				
		Son	5(38.46%)				
		daughter	2(15.39%)				
	When	6 months before		1(7.69%)	1.477	2	NS (5.991)
		1 year before		11(84.62%)			
		2 years before		1(7.69%)			

Types of houses	Pucca house	47(67.1%)	0.9	1	NS (3.841)
	Semi- pucca house	23(32.9%)	8		
Types of drainage system	Open drainage	60(85.7%)	0.0	1	
	Closed drainage	10(14.3%)	86		
Method of waste disposal	Burning	10(14.29%)	0.0	1	NS (3.841)
	Municipality Waste collection	60(85.71%)	86		
Sources of water supply	Tap water	59(84.6%)	0.0	1	NS (3.841)
	Others (rain water)	11(15.7%)	0		

Keynote: S= Significant, NS= Not significant, df= degree of freedom

The above table, Chi-square analysis demonstrated that no association between the socio-demographic variables and pre-test knowledge score only the distribution across age categories was statistically significant ($X^2=8.449$, $df=3$, $p<0.05$). Thus, we conclude that the pre-test level of knowledge is associated with age of the respondents.

Summary

This study evaluated the effectiveness of Structured Teaching Programme on knowledge regarding prevention of Dengue fever among adults in Imphal West District, Manipur. A quasi-experimental, one-group pretest-posttest research design was utilized with a sample of 70 adults from Singjamei Chingamakha, Kshetri Leikai. Data were gathered using validated 30-item structured knowledge questionnaire ($\alpha = 0.716$) and analyzed using descriptive and inferential statistics. A paired samples t-test demonstrated a statistically significant difference between pretest and post-test knowledge scores, indicating that the educational intervention significantly enhanced knowledge levels. Chi-square analysis revealed no significant association between baseline knowledge scores and selected socio-demographic variables, with the exception of age ($X^2=8.449$, $df=3$, $p<0.05$). These findings suggest that structured educational interventions are an effective means to improve community level awareness of dengue prevention.

Recommendations

- A similar study can be conducted for a large group for better generalisation of the findings for a larger population.
- An experimental study can be undertaken with control group for effective comparison of the result.
- Comparative study can be done between rural and urban population.
- Future studies can include the attitude and practice of the community in order to find out the relationship between knowledge, attitude and practice.
- Various other methods of teaching can be used for future studies like video assisted teaching, leaflet, SIMS, pamphlet etc.

CONCLUSION

The Structured Teaching Programme significantly enhanced adult knowledge regarding dengue fever prevention. Post-test results demonstrated a substantial increase in adequate knowledge levels compared to baseline pre-test scores. Furthermore, pre-test knowledge levels showed no significant association with socio-demographic variables, with the exception of age.

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