Assessment of Effectiveness of Structured Teaching Programme on Knowledge Regarding Dengue Fever

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ABSTRACT

Dengue fever is an acutely infectious mosquito-borne viral disease. The prevalence of the mosquito borne disease was increases shown by the recent decades. According to the World Health Organization Dengue virus infection is an escalating health problem throughout the world because of increasing mortality and morbidity and is currently endemic in over 100 countries. "Aim of this study is to assess the effectiveness of structured teaching programme on knowledge regarding dengue fever among the students. The conceptual framework was developed based on the Health Belief Model. Structured lesson plan was developed on Dengue fever and content validity was determined by the experts from nursing field. Knowledge questionnaire internal consistency (r-0.8) was tested by using split half method. Baseline knowledge level was assessed and structured teaching programme was introduced. Post-test assessment of knowledge level was done immediately after teaching session. Data was collected from the 50 selected samples by using structured knowledge questionnaire. Result revealed that in pre-test maximum subjects (44%) were having average knowledge, 30% subjects were having average knowledge and 24% subjects were having below average knowledge whereas only 2% subjects were having excellent knowledge. After giving teaching to the subjects post-test knowledge have shown that majority of subjects i.e..38%.had good level of knowledge,36% had excellent level of knowledge,18% had average whereas only 8% had below average level of knowledge regarding dengue fever.

KEYWORDS: Knowledge, Students, Dengue fever

1. INTRODUCTION

Dengue is *"A disease of many tropic and subtropic regions that can occur epidemically; caused by dengue virus, a member of the family Flaviviridae."*

Dengue fever is an acutely infectious mosquito-borne viral disease. The prevalence of the mosquito borne disease was increases shown by the recent decades. According to the World Health Organization Dengue virus infection is a escalating health problem throughout the world because of increasing mortality and morbidity and is currently endemic in over 100 countries. Dengue Symptoms typically begin three to fourteen days after infection. This may include a high fever, headache, vomiting, muscle and joint pain, and a characteristic skin rash. Recovery generally takes less than two to seven days. In a small proportion of cases, the disease develops into the life-threatening dengue hemorrhagic fever, resulting in bleeding, low levels of blood platelets and blood plasma leakage, or into dengue shock syndrome, where dangerously low blood pressure occurs. Dengue is spread by several species of mosquito of the *Aedes aegypti*. The virus has five different types;[3]infection with one type usually gives lifelong immunity to that type, but only short-term immunity to the others. Subsequent infection with a different type increases the risk of severe complications. [1] A number of tests are available to confirm the diagnosis including detecting antibodies to the virus or its RNA.[1]

The epidemiology of dengue in India to improve understanding of its evolution in the last 50 years and

support the development of effective local prevention and control measures. Early outbreak reports showed a classic epidemic pattern of transmission with sporadic outbreaks, with low to moderate numbers of cases, usually localized to urban centres and neighbouring regions, but occasionally spreading and causing larger epidemics. Trends in recent decades include: larger and more frequent outbreaks; geographic expansion of endemic transmission; spread of the disease from urban to peri-urban and rural areas; an increasing proportion of severe cases and deaths; and progression to hyperendemicity, particularly in large urban areas. Prevention is by reducing mosquito habitat and limiting exposure to bites. This may be done by getting rid of or covering standing water and wearing clothing that covers much of the body. The first recognized dengue epidemics occurred almost simultaneously in Asia, Africa, and North America in the 1780s, shortly after the identification and naming of the disease in 1779. A pandemic began in Southeast Asia in the 1950s, and by 1975 DHF had become a leading cause of death among children in the region. The first case of DHF was reported in Manila, Philippines around 1953 through 1954. Epidemic dengue has become more common since the 1980s. By the late 1990s, dengue was the most important mosquito-borne disease affecting humans after malaria, with around 40 million cases of dengue fever and several hundred thousand cases of dengue.[2]

The hemorrhagic fever usually results when someone who had prior infection with a particular dengue serotype becomes infected with a different serotype. The cross reaction of antibodies to the dengue antigens is thought to result in this disease. In severe cases, patients may suddenly deteriorate, develop hypothermia and go into circulatory shock, a condition known as dengue shock syndrome. This syndrome is associated with 40–50% fatality if untreated or mistreated. When properly treated, the case fatality can be reduced to 5% or less. Every year, there are more than 100 million cases of dengue worldwide and of these, 2000–3000 cases (mostly children) result in death. Treatment for dengue fever entails mainly supportive therapy. Because there is no vaccine to protect against this disease, great emphasis is placed on control and preventive measures. Tropical areas such as Jamaica provide a climate that is conducive to breeding of dengue transmitting mosquitoes. Thus, seasonal variations in temperature and rainfall correlate with the levels of dengue infections. Increased numbers of dengue cases are associated with elevated levels of rainfall and temperatures. Given that dengue is a vector borne disease, many initial attempts at curbing the disease

were directed at vector elimination using insecticides. However, chemical vector control programs have limited feasibility due to insect resistance and the cost of personnel required to maintain the programs[3].

The WHO and Centres for Disease Control and Prevention recommends limited reliance on insecticidal control and emphasis on community educational campaigns that emphasize residents' responsibility in reducing vector breeding sites. This view is supported by prior research showing that community education can be more effective in reducing dengue vector breeding sites than chemicals alone[4].

Record dengue outbreaks reported in Philippines dengue case load for Q1 2011 was some 5% higher than the preceding year, at 18,885 cases and 115 deaths. For 2011 until April 16, Brazil has recorded some 56,882 cases with 39 deaths, Paraguay with 27,000 cases and 31 deaths. In 2012 there have been numerous outbreaks reported for the first time in the Island of Madeira, Some 52,008 cases of dengue fever were recorded in Thailand from Jan to Oct 16, 2012, with 50 deaths 2013 in many countries: Brazil (double deaths over 2012), Singapore, and Thailand (worst in 20 years).Dengue deaths have tripled in Malaysia until Feb 2014 over 2013, after tripling 2013 over 2012. Due to Typhoon Haiyan striking the Philippines early 2014, stagnant waters and heavy rain have been on constant watch due to mosquitoes breeding and causing epidemics around the tropical areas. 2015 Outbreaks in Taiwan have intensified in nearly all tropical areas, with endemic extent, deaths, and caseloads all reporting new highs, with the Americas reporting a whopping 2 million symptomatic cases. In tropical/subtropical Asia, nearly all nations had reported explosive increases. With one sole exception, China's caseload has plunged to less than a tenth of the prior year due to massive releases of sterilized mosquito's.[5]

Material and Methods
Research design adopted for the present study was one group pre-test and post- test design. The study was conducted in Khalsa Senior Secondary School Kurali. By using convenient sampling technique 50 students were selected from Khalsa Senior Secondary School Kurali. Mohali Punjab. The tool were prepared on the basis of the study. Socio-demographic profile used to measure the personal characteristics of 9th standard students. Structured knowledge questionnaire developed to assess the knowledge of students regarding the Dengue fever. Structure teaching programme was develop which consist of theoretical portion of dengue fever, worldwide distribution, risk factors/groups for dengue

fever, clinical features, laboratory diagnosis, hospitalization, methods of prevention and control, treatment of the dengue fever.

The blue print, tool and criteria structured knowledge questionnaire were given to 10 expert in the field of nursing. However, the tool were modified according to the recommendations and suggestion of experts.

The reliability (internal consistency) of the structure knowledge questionnaire computed by using split half method. The reliability of tool was 0.9.Permission from the principal of Senior Secondary School Khalsa, Kurali taken prior to data collection. The confidentiality to the subjects and their response assured and consent was obtained.

Result -

Table -1.1 shows the subject distribution according to their sample characteristics. The more than half of subjects i.e.52% were aged i.e.13-14. years where as 48% were in age group of 15-16 years. Equivalent number of subjects were male and females. All the subjects were from rural area, majority of subject had the previous source of knowledge i.e. 52% from newspaper,32% subject were heard about the dengue from TV where as other sources of knowledge were books (12%) and health personnel's (4%).

SECTION – A Analysis of sample characteristics

Table 1.1Frequency and percentage distribution of sample characteristics.

N=50

Socio-demographic variables	Frequency	%
Age(in yr)		
a)13-14	26	52%
b)15-16	24	48%
Gender:-		
a)Male	25	50%
b)Female	25	50%
Residence:-		
Rural	50	100%
Source of previous knowledge:-		
Books	6	12%
Newspaper	26	52%
Health personnel's	2	4%
TV and Other	16	32%

SECTION –B STRUCTUR TEACHING PROGRAMME REGARDING DENGUE FEVER.

SECTION.2(A)

Table 1.2; Pretest Frequency and percentage distribution of students according to their level of knowledge regarding dengue fever:

N=50

Level	Scores	Frequency	Percentage
Excellent	Above 20	1	2%
Good	16-20	15	30%
Average	11-15	22	44%
Below average	0-10	12	24%

Maximum score=22 Minimum= 0

Table -1.2 depicts that majority of students (44%) had average knowledge score followed by 30% of students had good knowledge score regarding dengue.24% subjects were having below average knowledge score and 2% had excellent knowledge score. Hence it concluded that majority of students had average knowledge regarding dengue fever.

SECTION:-2 (B)

Table 1.3; Post-test Frequency and percentage distribution of students according to their level of knowledge regarding dengue fever:

N=50

Level	Scores	Frequency	%
Excellent	Above 20	18	36%
Good	16-20	19	38%
Average	11-15	9	18%
Below average	0-10	4	8%

Maximum score=19 Minimum= 0

Table -1.3 depicts that majority of students (38%) had good post-test knowledge score followed by 36%% of students had excellent post-test knowledge score.18% subjects were having average knowledge post test score and 8% of subjects had below average post-test knowledge score Hence it is concluded that majority of students had good knowledge regarding dengue fever

Table 1.4; Mean, Median, standard deviation or mean difference of pre-test and post-test knowledge scores.

N=50

Test	Mean	Median	SD	Mean difference
Pre-test	12.16	25.2	1.6	1.1
Post-test	17.9	25.2	2.7	

Table:1.4 shows the mean pre-test and post-test knowledge score of students on dengue fever. Findings shows the increase in knowledge of students (12.16±1.6 vs 17.9± 2.7)).

SECTION –D

Table: 1.5; Mean, median, standard deviation, mean difference and t-value of pre-test and post-test knowledge scores.

N=50

Test	Mean	SD	Mean difference	t-test	table-value	Level of significance
Pre-test	12.16	1.6	1.3	4.0	1.684	>0.05%
Post-test	17.9	2.7				

Table 1.5 reveals that there is significant difference in mean pre-test and mean post-test knowledge scores of the subjects at 0.05% level of significance.

Table No 1.6-Association of knowledge related to dengue fever with selected demographic variables:-

N=50

Sr. No	Variables	Level of knowledge		Chi-square value	d.f	Table value(p)	Level of significance
		Above mean	Below mean				
1	**Age** a) 13-14 b)15-16	13 14	11 12	0.080	1	3.84	NS
2	**Gender** a)Male b)Female	15 12	10 13	0.728	1	3.84	NS
3	**Source of information** a) Books b)Newspaper c)Health personnel's d)TV and Other	5 16 2 6	1 8 0 12	19.9	3	7.81*	S

Table 1.6 shows that there is significant relation between the source of previous knowledge and level of knowledge whereas with other demographical variables there is no significant association of knowledge.

CONCLUSION

Assessment of level of knowledge before and after Structured Teaching Programme shows that there is increase in level of knowledge.

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