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"Effectiveness of Information Booklet on Knowledge Regarding Dengue Fever And Its Prevention Among Senior Secondary School Students."

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Abstract: *A Quasi experimental study to assess the effectiveness of information booklet on knowledge regarding dengue fever and its prevention among Senior Secondary School Students.The sample consisting of 150 Senior Secondary School Students was selected by using simple random sampling. The tool comprised of structured self-administered questionnaire. The pretest was conducted and the information booklet was administered. The post test was conducted after one week. The data obtained were analyzed by using descriptive and inferential statistics. The mean score of post-test knowledge 18.22* (*60.73*%) *was apparently higher than the mean score of pre-test knowledge 12.56* (*41.86*%), *suggesting that the information booklet was effective in increasing the knowledge of the Senior Secondary School Students regarding dengue fever and its prevention. The mean difference 5.66 between pre-test and post-test knowledge score of the Senior Secondary School Students was found to be significant.*

Key words: *Dengue fever and its prevention, Senior Secondary School Students, one group pre – test post – test Quasi experimental study*

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I. Introduction

Every year over 1 million peoples all around the world die due to vector borne diseases. Focusing mainly on the increasing treatment of viral infections caused by insect's mosquitoes. The World Health Day highlights 'Prevention of vector borne diseases. 'Vector is defined as an arthropod any living carrier that transports an infectious agent to a susceptible individual. The Vector-borne diseases (VBDs) are a group of diseases transmitted by mosquitoes and other vectors. People suffer from a significant disease, these diseases spread in local and specific areas of India, which is reflected in the form of morbidity and mortality from top 6 vector borne diseases Dengue, Malaria, Chikungunya, Japanese Encephalitis (JE), Kala-azar and Lymphatic filariasis.

The term "dengue" is a Spanish attempt at the Swahili phrase "Ki Denga Pepo" meaning "cramp-like seizure caused by an evil spirit". Dengue fever is an acute febrile disease caused by infection of dengue virus transmitted by the female Aedes mosquito and it is called breakbone fever or dandy fever. Dengue is one of the most common mosquito borne disease in India. It causes a high fever and rashes. Unlike most mosquitoes, dengue causing mosquitoes bites during the day. These mosquitoes breed in warm, humid weather and in stagnant water. This is the number of cases of dengue go up high during monsoon season. Dengue has an incubation period of between 3- 14 days. Most cases present within 4-7 days. Patients may report flulike symptoms: sudden fever, arthralgia, headache, eye pain, and myalgia. Other common symptoms include "nausea, vomiting, and macules, papules rashes, which appears 3-5 days after onset of fever." About1% of those infected develop the hemorrhagic form. Dengue fever is an acute, infectious tropical disease caused by an arbovirus transmitted by the bite of infected mosquito. Dengue fever can be caused by any one of four types: DEN-1, DEN-2, DEN-3, and DEN-4. Infection with one virus does not protect a person against infection with

another. A person can be infected by at least two, if not all four types of the dengue virus at different times during a life span, but only once by the same type.

The only methods of preventing dengue fever are controlling the mosquito infection. No vaccine is currently available. The preventive method of dengue fever is controlling the mosquito infestation. Proper solid waste disposal and improved water storage practices including covering containers should be encouraged. Insecticides should use periodically. Wear light-colored, loose fitting, protective clothing that covers as much of our body as possible. Use an insect repellent on areas of our skin that are exposed and on our clothing especially around loose parts such as collars. Repellants containing a chemical known as DEET (N, N-diethyl metatoluamide) are thought to be most effective and use plug in devices, which have insecticides in them, to kill mosquitoes, sleep under a mosquito net to avoid being bitten at night. It is most important to follow these precautions around dawn and dusk, as is when the Aedes mosquito is most active. There are no specific antiviral medicines for dengue. It is important to maintain hydration. Use of acetyl salicylic acid (e.g. aspirin) and non-steroidal anti-inflammatory drugs (e.g. Ibuprofen) is not recommended. Dengue hemorrhagic fever (fever, abdominal pain, vomiting, bleeding) is a potentially lethal complication, affecting mainly children, adolescents. Early clinical diagnosis and careful clinical management by experienced physicians and nurses increase survival of patients.

A study was conducted by **Niraj pandith, yogesh patel** in the year (**2010**) at Central Gujarat district Vadodara "to assess the awareness and practices of mosquito bite prevention methods among households". Total 311 families have participated in the study from UHTC area of the Medical college. Door to door visit was conducted to visit the all households. The study was conducted in the month of June 2009, which is observed as dengue fever in Gujarat. The pilot pre-tested structure questionnaire was used to collect the data. Study respondents were 57% male and 43% female. Almost 99% had knowledge about breeding places of mosquito, but poor knowledge about biting time (20%). 71% of participants knew that mosquito bite causes malaria. 39% 0f households were using mosquito net as protection against the bite, but only 10% we're using insecticide treated bed net. The study concluded that there is need of increasing use of insecticide treated bed nets and continuous updating of knowledge about various aspects of mosquito bite.

The dengue is the most common disease in the world wise, accounting for approximately over40% of population are now at risk from dengue.The knowledge of Senior Secondary School Students regarding dengue fever and its prevention.Therefore, the researchers were interested to take on the study.

II. Research Elaborations

Statement of problem –

"A study to assess the effectiveness of information booklet on knowledge regarding dengue fever and its prevention among Senior Secondary School Students in Selected Senior Secondary Schools of Udaipur, Rajasthan."

III. Objectives

1. To assess the pre–test knowledge score regarding dengue fever and its prevention among Senior Secondary School Students.
2. To administer information booklet regarding dengue fever and its prevention among Senior Secondary School Students.
3. To assess the post-test knowledge score regarding dengue fever and its prevention among Senior Secondary School Students.
4. To determine the effectiveness of information booklet regarding dengue fever and its prevention among Senior Secondary school students
5. To find out association between pre-test knowledge score with selected socio demographic variables.

IV. Hypothesis

H_1 - There will be a significant difference between pre-test knowledge scores and post- test knowledge scores of Senior Secondary School Students regarding dengue fever and its prevention.

H_2- There will be significant association between the levels of knowledge of Senior Secondary School Students

regarding dengue fever and its prevention with selected socio- demographic variables.

V. Materials And Methods

Population – Senior Secondary School Students.

Sample– Senior Secondary School Students Studying in Udaipur

Sample size – 150 Senior Secondary School Students.

Setting – Guru Nanak Senior Secondary School H.M. Sector-3 Udaipur and Rajasthan Bal Vidhya Mandir Senior Secondary School, Jhadol, Udaipur, Rajasthan, India

The conceptual framework for the study was developed on the bases of Health Promotion Model.

VI. Research Design

The research design selected for the present study was a one group pre-test post-test research design

PRE-TEST (**Dependent variable**)	**TREATMENT** (**Independent variable**)	**POST –TEST** (**Dependent variable**)
O1	X	O2
Knowledge of Senior Secondary School Students	Information booklet regarding dengue fever and its prevention.	Knowledge of Senior Secondary School Students

Table 1: Quasi Experimental One group pre and post-test research design

The interpretations of the symbol are as below:

O1 - Administration of pre-test knowledge questionnaire

O2 - Administration of post-test knowledge questionnaire

X - Intervention, treatment (independent variable) i.e. Information booklet.

ETHICAL CONSIDERATION

After obtaining permission from research committee of Geetanjali College of Nursing, prior permission was obtained from principal of Guru Nanak Senior Secondary School, H.M. Sector-3, Udaipur (Raj.) and Rajasthan Bal Vidhya Mandir Senior Secondary School, Jhadol, Udaipur, Rajasthan, India.Consent was taken from each participant who had participated in the study.

DESCRIPTION OF THE TOOL

The structured knowledge questionnaire consisted of two parts i.e. Part – I & II.

Part - I: consisted of 7 items on socio- demographic data such as Age in year, Gender, Religion, Class of study, Mothers Educational, Family Income(monthly), Source of Information.

Part - II: consisted of 30 knowledge items. Each item was multiple choices in nature with 4 choices.

SCORING

The knowledge of Senior Secondary School Students regarding the outcomes of dengue was scored as follows, one mark for each correct answer and zero marks for incorrect answer. The maximum score was 30, to interpret level of knowledge the score was distributed as follows;

Interpretation of knowledge:

Level	**Range**
Inadequate knowledge	<50 %
Moderate knowledge	51-75 %
Adequate knowledge	>75 %

An answer key was prepared for scoring answer to the structured knowledge questionnaire.

DATA COLLECTION AND DATA ANALYSIS

The data was presented under the following sections

Section-I: Description of socio-demographic variables of the respondents.

Section-II: Distribution of Respondents according pre-test and post-test level of knowledge score.

Section-III: Effectiveness of information booklet on knowledge of Senior Secondary School Students on dengue fever and its prevention.

VII. Results

Table 2: Frequency and Percentage distribution of respondents to their level of knowledge score N=150

Level of Knowledge	Score	Respondents			
		Pre-test		Post-test	
		Frequency	Percent (%)	Frequency	Percent (%)
Inadequate knowledge	<50%	70	47	0	0
Moderately knowledge	51-75%	80	53	50	33
Adequate knowledge	>75%	00	00	100	67
Total		150	100	150	100

Table 2: The result showed that, in pre-test 53% of the respondents had moderate knowledge ,47% of the respondents.

had inadequate knowledge and none of respondents had adequate knowledge and in post-test 67% of the respondents had adequate knowledge and 33% of the respondents had moderate adequate knowledge regarding dengue fever and its prevention and none of the respondents had an inadequate knowledge

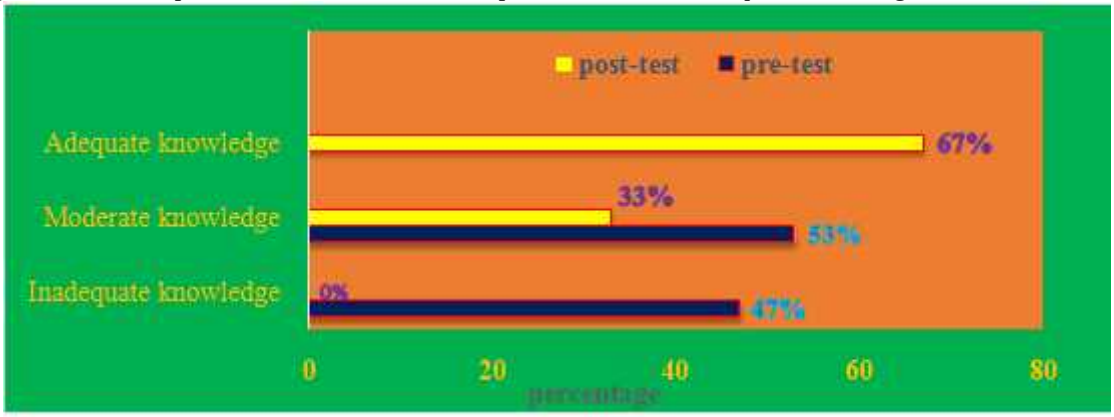

Figure 2: Frequency and Percentage distribution of respondents to their level of knowledge score

SECTION: **III**

EFFECTIVENESS OF INFORMATION BOOKLET ON KNOWLEDGE OF SENIOR SECONDARY SCHOOL STUDENTS ON DENGUE FEVER AND ITS PREVENTION.

The paired "t" value was computed to determine the effectiveness of information booklet on knowledge of Senior Secondary School Students on dengue fever and its prevention.

The following research hypothesis was stated

H_1 -There is a significant difference between pre-test knowledge scores and post- test knowledge scores of Senior Secondary School Students regarding dengue fever and its prevention.

H_2- There will be significant association between the levels of knowledge of Senior Secondary School Students regarding dengue fever and its prevention with selected socio- demographic variables

Table 3: Area wise pre-test and post-test knowledge score N= 150

Area of Knowledge	Max. Score	Pre-test			Post-test		
		Mean	Mean %	SD	Mean score	Mean %	SD
Introduction, definition and characteristics of dengue fever	7	2.76	39.42	12.23	4.37	62.42	19.33
Causes, types, and phases of dengue fever	9	4.01	44.55	15.55	5.50	61.11	21.74
Clinical manifestation	4	1.91	47.75	11.62	2.46	61.50	14.66
Diagnostic evaluation	3	1.28	42.66	8.91	1.79	59.66	12.71
Treatment and management	2	.62	31.00	5.3	1.23	61.50	10.55
Prevention and control of dengue fever	5	1.97	39.40	8.98	2.85	57	15.18

Table 3: The result showed that the mean, standard deviation and percentage of pre-test and post-test knowledge score on different areas of dengue fever and its prevention.

In the area of Introduction, definition and characteristics of dengue fever, in the pre-test knowledge mean score 2.76 and SD 12.23 in pre-test experimental group and mean value 4.37 and SD 19.33 in post-test experimental group. In the area of Causes, types, and phases of dengue fever, the mean score 4.01 and SD 15.55in pre-test experimental group and mean score 5.50 and SD 21.74 in post-test experimental group.In the area of Clinical manifestation, mean score 1.91 and SD 11.62 in pre-test experimental group and mean score 2.46 and SD 14.66, in post-test experimental group.In the area of Diagnostic evaluation, mean score 1.28 and SD 8.91 in pre-test experimental group and mean score 1.79and SD 12.71 in post-test experimental group. In the area of Treatment and management, mean score .62 and SD 5.3 in pre-test experimental group and mean score 1.23 and SD 10.55 in post-test experimental group.In the area of Prevention and control of dengue fever, mean score 1.97 and SD 8.98 in pre-test experimental group and mean score 2.85 and SD 15.18 in post-test experimental group.Therefore, the results confirmed that the information booklet was highly effective in improving the knowledge of Senior Secondary School Students regarding dengue fever and its prevention.

Table 4: Effectiveness of information booklet on knowledge of Senior Secondary School Students on dengue fever and its prevention. N=150

Knowledge Assessment	Mean	Mean Difference	SD	Df	Paired "t" test	P Value
Pre-test	12.56	5.66	2.33	149	37.73	0.05
Post-test	18.22		2.67			

Table 4: The result showed that the mean post-test knowledge score (18.22) was higher than the mean pre-test score (12.56). The mean difference pre-test score (5.66) of knowledge was significant at 0.05 % level at the "t" = 37.73 *P<0.05. Hence research hypothesis H_1 was accepted. This indicates that the information booklet was effective in increasing the knowledge of Senior Secondary School Students on dengue fever and its prevention.

VIII. Conclusion

The study aimed at testing the effectiveness of information booklet on knowledge of Senior Secondary School Students regarding dengue fever and its prevention. The result showed that the information booklet was highly effective. The implications of this study emphasize on inclusion of information booklet on dengue fever and its prevention in the Senior Secondary School continuing education programs, so that the dengue fever and its prevention can be prevented.

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