

# A Study to Effectiveness of Structured Teaching Programme on Knowledge Regarding Prevention of Mosquito Borne Diseases among Students in Selected Schools, Tirupati

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**Abstract:** Mosquito borne diseases are infection transmitted by the bite of infected mosquito. The research approaches adopted for this study is quantitative approach. The research design adopted for the study was 'Pre – Experimental design with one group pre – test post – test design. The sample consist of the 60 students from selected schools Tirupati. The pre – test knowledge were given assessed using self- Structured questionnaire. The planned intervention were given to the study participants on the same day. The post – test knowledge was also assessed using the same questionnaire on day 7. The Results The study reveals that, knowledge score on mosquito borne diseases among students in pre – test. out of 60 students' majority i. e.45 (75%) were having inadequate knowledge followed by 13 (21.70%) were had moderate knowledge and few of them i. e.2 (3.30%) had adequate knowledge. Mean value was (15.83) & Standard Deviation was (6.26). where as in post – test i. e., 41 (68.30%) were having moderate knowledge followed by 10 (16.70%) were having adequate knowledge and few of them having 9 (15%) inadequate knowledge. Mean value was (25.32) & S. D was (5.07) and t – value was (18.903) p value was significant at 0.000 levels. The result clearly showed that the structured teaching programme significantly improve the knowledge of students on mosquito borne diseases.

**Keywords:** Effectiveness, structured teaching programme, knowledge and prevention, mosquito borne diseases, students

## 1. Introduction

A community is the common life of human beings who are guided essentially from within, actively, spontaneously and freely relating themselves to one another, weaving for themselves a complex web of social unity. Community health is a field of public health that focuses on preventing, protecting, maintaining and improving the health status of the people. Community health nursing is the synthesis of nursing and public health practice applied to promote and protect the health of population. The practice is general and comprehensive. A community health nurse is a partner in the provision of health care services health promotion, health prevention, health maintenance, health education and management, coordination and continuity of care are utilized in a holistic approach to the management of the health care of individuals, families and the community as a whole.<sup>1, 2</sup>

According to WHO, mosquitoes are one of the deadliest insects in the world. Their ability to carry and spread diseases to human causes millions of deaths every year. In 2015, malaria alone caused 43.80, 00 deaths. The annual report data recorded 8.44, 558 cases and 194 deaths in 2017. The worldwide incidence of dengue fever has raised 30 - fold in the past 30 years. Zika virus, dengue fever, Chikungunya and yellow fever are all transmitted to humans by the aedes aegypti mosquito. Some other species of mosquitoes like Culex and anopheles are also responsible in spreading diseases. More than half of the world's population lives in areas where this mosquito species is present. Sustained

mosquito control. Efforts are important to prevent outbreaks of the diseases.<sup>3</sup>

Mosquito - Borne Diseases or mosquito - borne illness is disease caused by bacterial, viruses, parasites transmitted by mosquitoes. This can transmit disease without being affected themselves. Mosquitoes play essential role in the transmission of animal diseases. Mosquitoes borne diseases involve the transmission of viruses and parasites from animal to animal, animal to person or person to person without affecting the insect vectors with symptoms of disease. It is a main leading problem to human kind. Some mosquitoes are vectors for some of the diseases. Typically, the diseases are caused by viruses or tiny parasites mosquitoes are now called 'public enemy no.1' by the world health organization. There are more than 4500 species of mosquitoes distributed throughout the world under 34 genera, but mostly belongs to aedes, anopheles and Culex. They are visitors of several public and life - threatening disease including protozoan's (malaria), viral (yellow fever, dengue fever, Chikungunya, west Nile virus. Japanese encephalitis) or penmen (Filariasis) Infections. These diseases not only cause mortality or morbidity among the humans and cause social, cultural environmental and economic loss of the society.<sup>4</sup>

Malaria is transmitted into human bodies by the bite of anopheles mosquitoes, dengue fever is transmitted to human bodies by the bite of female aedes mosquitoes. The most common symptoms of malaria are high grade fever, constipation. Disorientation and kidney dysfunction. In dengue fever, the patient suffers from fever for the initial three

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- four days, followed by body pain and retro - orbital pain, in acute cases, decreased urine output, respiratory difficulties and increased bleeding tendencies also accompany the usual symptoms.<sup>5</sup>

For treating malaria, anti - malaria drugs like Chloroquine and artemisinin are available, since dengue fever are viral diseases and do not have specific treatment. The treatment for dengue fever is symptomatic. Based on the specific diagnostic investigation. Dengue fever patients are given antipyretics for the fever to subside, and anti - inflammatory drugs are given. The patients are prone for dehydration and advised to increase their intake of fluids along with nutritional supplements. ”<sup>5</sup>

“Avoid getting bitten by mosquito, ” because there are no vaccines to prevent these diseases. Wear clothes that cover fully and apply mosquito repellent creams. As a community to prevent such diseases ensures that there is no water stagnation in the surroundings because they become excellent breeding grounds for mosquitoes. Also make sure that living area and surroundings are hygienic and clean. Destroy the breeding places of mosquitoes and use mosquito nets, coils it will help to prevent the mosquito bite.<sup>5</sup>

## 2. Literature Survey

### Reviews related to prevalence and knowledge on dengue:

**IZAZ ASHRAF, et al, (2023)**, Conduct study on knowledge awareness and preventive practices of dengue in Pakistan. A total 160 respondents from 20 public secondary schools participated majority (86.9%) had about dengue fever around (56%) of respondents had belayed that aedes breed in unclean water. Fever was the leading symptom (80.6%) and use of mosquito repellent coils (98.8%). All most (76%) of respondents were inform to visit the nearest basic health unit for urgent treatment. Study concluded that the school was the leading information source. Thus, high preventive measures strategies are needed<sup>15</sup>

**M. D. IMAM HUSSAIN, et al (2021)**. A cross sectional study was conducted on knowledge and prevention practice of dengue among selected 1010 respondents at Bangladesh. A structured question was used for all the participants study results shown that majority [93.8%] of the respondents had about dengue. However, they had misconceptions. The preventive practice level was moderately less than the knowledge level. Study concluded that dengue is emerging in Bangladesh; there is an urgent need to increase health promotion activities. Through campaigns for eliminating misconception and knowledge gap about dengue.<sup>16</sup>

### Reviews related to prevalence and knowledge on malaria

**MOHAMMAD ESSA, et al (2022)** Studied on awareness and perception of malaria and dengue at school and college level in the Multan. A sample size was 500 respondents Result shown that students at college level are aware of malaria and dengue diseases than the students at school level. But they are not capable of engaging and surving as agent for health reform. Study recommended that students must teach about epidemics diseases regarding how to handle these diseases.<sup>23</sup>

**ISAAC BOADU, et al (2020)** Conducted student on knowledge and prevalence of malaria among rural participants in Ghana total 481 participants from 155 randomly selected. Data was collected through semi – structured questioner. Result shown that malaria prevalence among participates was (39.1%) prevalence was significantly higher among females. Although most participants had poor knowledge of malaria. The overall knowledge was good (54.2%) Having poor knowledge increasing the risk of malaria infections. Study concluded that there is need for increased community educational programme on malaria transmission and prevention <sup>24</sup>

### Review related to effectiveness of structured teaching programme on mosquito – borne diseases:

**SHAMUGA KANI. G et al (2019)** Conducted study on effectiveness of structured teaching programme on knowledge regarding prevention of Dengue among mothers in Chennai, India. A true experimental design was chosen and simple random sampling technique for used to select the sample. Study results shown that. In experiment group at the pre - test level mothers are having 46.47% of knowledge and after the test. They are having 83.33%, so they gained 37.06% after structured teaching programme. In control group, at the pre - test level mothers having 47.33% knowledge score and in post - test they are has 49.60%, so they have gained only 2.27% without structured teaching programme. Study concluded that statistically significant was calculated by using chi - square and student independent t - test, so structured teaching programme regarding prevention of Dengue fever in children has significant impact in improving the knowledge score among mothers.<sup>31</sup>

### Reviews related to knowledge on prevention of mosquito - Borne Diseases

**SUCHITRA BS. Etal (2018)**, A descriptive study was conducted to assess the knowledge and practice regarding prevention of mosquito - borne disease among adult population in selected rural area of Athuru under Nitte CHC with 100 sample belongings to 20 - 50 years of age. Subject was selected by using simple random sampling method. Structured knowledge questionnaire and practice check list used to assess the preventive method adopted for the control of mosquito - borne diseases. The present study reveals that 52 (52%) had average knowledge, 33 (33%) had good knowledge and 15 (15%) had poor knowledge. ”<sup>38</sup>

### Statement of the Study

Effectiveness of structured teaching programme on knowledge regarding prevention of mosquito borne diseases among students in selected schools, Tirupati

### Objectives of Study:

- To assess the level of knowledge regarding prevention of mosquito borne diseases among students in selected schools by Pretest.
- To evaluate the effectiveness of structured teaching programme on knowledge regarding prevention of mosquito borne diseases among Students in selected schools by post – test

- To find the association between knowledge regarding prevention of mosquito borne diseases among Students with their selected socio - demographic variables

### 3. Methods/ Approach

The quantitative research approach with one group pre and post – test was adopted for this study. The present study was conducted in the selected schools Tirupati. The population were the students and the sample is 60 using of Convenient sampling technique who fulfill the inclusion criteria, from the selected schools Tirupati. After obtaining formal Head master permission were taken for data collection from the students in the study. Informed consent was taken from the sample to collect the data and confidentiality of the subjects was maintained. Demographics data were collected from the students included age, religion, education of mother and father, occupation of mother and father, monthly family income, type of family, type of house, source of water supply, method of disposal, source of information were collected through a separate data sheet.

The self - structured questionnaire were provided to the students to assess their knowledge regarding the mosquito borne diseases. The questionnaire contains 26 multiple choice questions which covers under two aspects. The total 30 minutes were allotted to the participants to answer the questionnaire. Each correct response carries one mark and wrong response carries 0 mark.

### 4. Results/ Discussion

According to the demographic variables that more than half of the sample 37 (61.67%) were in the age group of 14 years followed by 21 (35.00%) percentage of sample were in the age group of below 15 years and least percentage 2 (3.33) of sample were in the age group of 13 years. The data regarding religion that more than three fourth of respondents were Hindus 39 (65.00%) followed by Christians 8 (13.30%) and very negligible sample 13 (21.70%) belongs to Muslim community. The nearly half 26 (43.30%) of the respondent’s mothers were studied up to higher education, one fourth 22 (36.70%) of the respondent’s mothers were studied up to secondary education and 8 (13.30%) of the mothers were primary education, only 4 (6.70%) of the mothers were illiterates. The nearly half 25 (41.70%) of the respondent’s fathers were studied up to primary education, one fourth 22

(36.70%) of the respondent’s fathers were studied up to higher education and 9 (15.00%) of the fathers were secondary education, only 4 (6.70%) of the fathers were illiterates. The nearly half 23 (38.30%) of the sample mothers were daily wage workers, one fourth 19 (31.70%) of the sample mothers was home maker and very few 9 (15.00%) sample mothers were agriculture and 6 (10.00%) were government employee and 3 (5.00%) were private employee. The 18 (30.00%) of the sample fathers were government and private employee, one fourth 14 (23.30%) of the sample fathers was agriculture and very few 7 (11.70%) sample fathers were daily wage worker and 3 (5.00%) were Unemployed. The nearly two thirds of the sample 26 (43.30%) monthly family income was 5, 000 – 10, 000 followed by 18 (30.00%) sample family income was above 20, 001 and 12 (20.00%) of sample family income was 10, 001 – 15, 000 and least number of samples 4 (6.70%) were 15, 001 – 20, 000 per month. The nearly two thirds of sample were belonging to nuclear family 37 (61.70%) followed by joint family 19 (31.70%) and negligible 4 (6.70%) sample belongs to extended family. The 39 (65.00%) of the sample have Pucca house one fourth 17 (28.30%) of the sample have semi Pucca and very few 4 (6.70%) sample have Kacha house. The nearly two thirds of the sample were using bore well 26 (43.30%) one fourth of the sample were using corporation water 25 (41.70%) and 9 (15.00%) were using pond water and 0 (0.00%) were not using water tanker. The nearly two thirds of the sample 47 (78.30%) was using dumping method, one fourth of the sample was using composting method 8 (13.30%), 3 (5.00%) sample was using sanitary landfills, and 2 (3.30%) were using burning method. The nearly two thirds 29 (48.30%) sample were getting information from mass media and 16 (26.70%) of sample from friends and 10 (16.70%) were receiving information from health care providers and 5 (8.30%) of sample getting information from newspaper.

The study reveals that, knowledge score on mosquito borne diseases among students in pre – test. out of 60 students’ majority i. e. 45 (75%) were having inadequate knowledge followed by 13 (21.70%) were had moderate knowledge and few of them i. e. 2 (3.30%) had adequate knowledge. Mean value was (15.83) & Standard Deviation was (6.26). where as in post – test i. e., 41 (68.30%) were having moderate knowledge followed by 10 (16.70%) were having adequate knowledge and few of them having 9 (15%) inadequate knowledge. Mean value was (25.32) & S. D was (5.07) and t – value was (18.903) p value was significant at 0.000 levels.

#### Total knowledge score regarding prevention of mosquito borne diseases among students in pre – test and post – test.

Knowledge score of students	Level of knowledge						Mean	SD	t - value	p - value
	Inadequate		Moderate		Adequate					
	N	%	N	%	N	%				
Pre – test	47	78.30%	13	21.70%	0	0	21.12	6.24	26.752**	0.000
Post - test	3	5%	36	60%	21	35%	34.57	5.99		

### 5. Discussion

The results according to pre – test scores showed that of 60 samples, majority of students 75% inadequate knowledge, 21.70% moderate knowledge and 3.30% is adequate knowledge. The results according to post – test knowledge showed that out of 60 samples majority of students 68.30% moderate knowledge, 16.70% adequate knowledge and 15%

is inadequate knowledge. The researcher revealed that in post – test, there was a statistically significant association between the knowledge score and the socio – demographic variable i. e., age, education of the mothers, occupation of the mothers, and fathers, monthly family income, and source of information was significant at 0.01 level and other sources of water supply significant at  $p < 0.05$  level. Remaining other

variables like religion, type of house, method of waste disposal. Hence H<sub>0</sub> was rejected

## 6. Conclusion

The study findings concluded that students had average knowledge regarding mosquito borne diseases before Structured Teaching Programme. After structured teaching programme students have improve the knowledge. The study that concludes that structured teaching programme is an effective technique in inducing the knowledge level of students regarding mosquito borne diseases.

## 7. Limitations

The present study is limited to students who:

- Were willing to participate in the study.
- Can able to understand both Telugu and English.
- Were available at the time of data collection.

## 8. Recommendations

On the basis of findings, the following recommendations have been made for further study:

- The same study can be replicated on a larger sample, there by the findings can be generalized.
- Follow up of the study can be conducted to evaluate the effectiveness of structured teaching programme.
- A comparative study can be undertaken to see the difference between urban and rural
- Students regarding knowledge on prevention of mosquito borne diseases.
- A descriptive study can be conducted to assess the knowledge attitude and practices of students regarding mosquito borne diseases.
- A study can be conducted to see the prevalence of mosquito borne diseases among students.
- An experimental study can be carried out with different teaching methods to know the effect of each method to improve the knowledge and attitude of the students towards mosquito borne diseases.

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