

# A Study to Evaluate the Effectiveness of Structured Teaching Programme on Knowledge Regarding Prevention of Mosquito Borne Diseases Among Rural People of Muchakhandi

Rajashekhargouda Hiregoudar<sup>1\*</sup>, Dileep S. Natekar<sup>2\*</sup>

\*Corresponding Author, Associate Prof. Dept of Community Health Nursing Shree B.V.V. S Sajjalshree Institute Of Nursing Sciences, Bagalkot Karnataka.

\*\* Principal, (Phd In Nursing) Shree B.V.V. S Sajjalshree Institute of Nursing Sciences, Bagalkot Karnataka.

Chaitra<sup>3</sup>, Bsc Nursing 4<sup>th</sup> Year Shri BVVS Sajjalashree Institute of Nursing Sciences Baglkote.

Varsha<sup>4</sup>, Bsc Nursing 4<sup>th</sup> Year Shri BVVS Sajjalashree Institute of Nursing Sciences Baglkote.

Iranna<sup>5</sup>, Bsc Nursing 4<sup>th</sup> Year Shri BVVS Sajjalashree Institute of Nursing Sciences Baglkote.

Bhagirathi<sup>6</sup>, Bsc Nursing 4<sup>th</sup> Year Shri BVVS Sajjalashree Institute of Nursing Sciences Baglkote.

Sunilgouda<sup>7</sup>, Pb Bsc Nursing 2<sup>nd</sup> Year Shri BVVS Sajjalashree Institute of Nursing Sciences Baglkote.

Sahil<sup>8</sup>, Pb Bsc Nursing 2<sup>nd</sup> Year Shri BVVS Sajjalashree Institute of Nursing Sciences Baglkote.

Heena Kousar<sup>9</sup>, Pb Bsc Nursing 2<sup>nd</sup> Year Shri BVVS Sajjalashree Institute of Nursing Sciences Baglkote.

## Abstract:-

### ➤ Background:

Now a Days the major problems in India, especially more in rural areas. In rural areas mosquito borne disease are more due to unhygienic practices. So, the rural people of all the age group are at risk to acquire mosquito borne diseases. During rainy season Mosquito breed in stagnant water. Water storage, containers for drinking, washing, bathing, are the primary source of larval according for 90% of the total breeding place. Important breeding place of mosquitoes is in slums, and open drainage, waste disposal. The people living in the hereby area are easily become the victims of vector-borne disease. Recurrent outbreak of mosquito borne disease are malaria dengue fever, chikungunya and filariasis. These are major diseases which can be transmitted by mosquitoes.

Mosquitoes are the vectors which carries virus and parasite causing disease from person to person without costing the disease for themselves. Mosquitoes suck the blood from people and other animals as part of their eating and breeding habits. When mosquitoes bite they also inject saliva and anticoagulants in to the blood.

### ➤ Aims:-

- To asses the factors associated with mosquito born diseases among rural people.
- To evaluate the effectiveness of structured teaching program regarding prevention of mosquito borne diseases.
- To find out the association between knowledge of rural people regarding prevention of mosquito borne diseases with selected socio demographic variables.

### ➤ Materials and Methods:

This was descriptive study with It is a quasi experimental study with a sample of 50 subjects, selected through simple random sampling technique. One group pre test design was used. Data was collected by means of a structured interview schedule, which was divided into 2 sections (socio-demographic data and knowledge regarding prevention of mosquito borne diseases.).The reliability of the tool was established by split Half method and value of karl person's co efficient of correlation,  $r = 0.8874$ . Structured teaching program on prevention of mosquito borne diseases structured teaching program and tool were validated by five experts.

### ➤ Result:

In pretest half of the subject (15%) had in adequate knowledge, 13 (26%) had satisfactory knowledge and 12 (24%) had adequate knowledge regarding prevention of mosquito borne diseases. The structured Teaching Program was found to be effective in improving the knowledge of sample regarding prevention of mosquito borne diseases, as evidenced by computed 't' value- 29.9429- which is highly significant at 0.001 level of significance.

### ➤ Conclusion:

The study proved that Structured Teaching Program on prevention of mosquito borne diseases among rural people was scientific, logical and cost-effective strategy.

**Keywords:** Rural People, Prevention of Mosquito Borne Diseases, Structured Teaching Program.

## I. INTRODUCTION

Mosquitoes are a vector agent that carries disease causing viruses and parasite from person to person without catching the disease themselves. Epidemic of mosquito borne disease are now a day's major health problem in India. Historically before mosquito transmitted disease were brought under control, they caused tens of thousands of deaths in most of the countries. Mosquitoes were shown to be the cause by which yellow fever and malaria were transmitted from person to person by Walter Reed, and William George and associates in the U.S Army medical corps first in Cuba and then around the Panama Canal in the Earth 1900. Now a days the major problems in India, especially more in rural areas. In rural areas mosquito borne disease are more due to unhygienic practices. So, the rural people of all the age group are at risk to acquire mosquito borne diseases. During rainy season mosquito breed in stagnant water. Water storage, containers for drinking, washing, bathing, are the primary source of larval according for 90% of the total breeding place. Important breeding place of mosquitoes is in slums, and open drainage, waste disposal. The people living in the hereby area are easily become the victims of vector-borne disease. Recurrent outbreak of mosquito borne disease is malaria dengue fever, chikungunya and filariasis. These are major diseases which can be transmitted by mosquitoes.<sup>1</sup> Mosquitoes are the vectors which carries virus and parasite causing disease from person to person without costing the disease for themselves. Mosquitoes suck the blood from people and other animals as part of their eating and breeding habits. When mosquitoes bite they also inject saliva and anticoagulants in to the blood contain disease carrying viruses and another parasite. This cycle can be interrupted by killing mosquitoes while they are infectious or by educating the exposable population to protect themselves from mosquito bites.<sup>2</sup>

Prevention is control of vector mosquitoes especially during the inter epidemic period which can reduce transmission of the virus and reduce the incidence and spread of the diseases. Preventive strategy tailored for specific locations are needed to reduce breeding places and the consequent risk of future outbreak of mosquito borne diseases. The promotion of community participation requires the understanding of the knowledge, of the community members about or towards the vector mosquito and the entomological indices in the area to able to assess risk and to formulate appropriate IEC materials. People do nothing to control of mosquito borne diseases because they do not understand the methods of prevention. Of mosquito born diseases. If they had this understanding, they would realize why preventive actions are necessary and would act swiftly. So, there should have a greater number of educative program about prevention of mosquito borne among diseases among the rural people.<sup>3</sup>

### ➤ Need For Study:

Approximately 40 percent of the world's population is susceptible to malaria, mostly in tropical & subtropical areas of world, more than 3 million deaths and 300-500 million cases are reported annually in the world. At most half of malarial cases in India are due to plasmodium falciparum which can kill the parasite, has become increasingly resistant to the cheapest drug chloroquine. Starting in 2015 the outbreaks of P. Falciparum malaria have resulted in large number of deaths in Rajasthan, Assam, and Nagaland.<sup>4</sup>

In India the causative and / or the symptomatic diseases were detected in most (257) of the 289 districts surveyed up to 2014. Currently there may be up to 27.09 million microfilariaemias, 20.83 million cases of symptomatic Filariasis and about 429.32 million individuals potentially at risk of infection in the country.<sup>5</sup>

To the best of investigator's knowledge, no study has been conducted in Bagalkot District regarding prevention of mosquito borne diseases. Therefore, the experience of investigator and through literature review it was revealed that the education on prevention of mosquito borne diseases is important to develop awareness regarding preventive measures of mosquito borne diseases. So, the investigator felt the strong need for the study and this study, designed to identify the need for accurate information required by the rural people about prevention of mosquito borne disease through pre-post test structured teaching programme.<sup>6</sup>

### ➤ Aims:-

- To assess the knowledge of rural people regarding prevention of mosquito borne diseases.
- To evaluate the effectiveness of structured teaching program regarding prevention of mosquito borne diseases.
- To find out the association between knowledge of rural people regarding prevention of mosquito borne diseases with selected socio demographic variables.

## II. MATERIALS AND METHODS

This is a quasi experimental study with a sample of 50 subjects, selected through simple random sampling technique. One group pre test design was used. Data was collected by means of a structured interview schedule, which was divided into 2 sections (socio-demographic data and knowledge regarding prevention of mosquito borne diseases.).The reliability of the tool was established by split Half method and value of Karl Pearson's co efficient of correlation,  $r = 0.8874$ . Structured teaching program on prevention of mosquito borne diseases structured teaching program and tool were validated by five experts.

### III. RESULTS

➤ *Section 1: description of socio – demographic variables (table 1)*

- Percentage wise distribution of sample according to age of rural people.

Percentage distribution of study sample by the age group. Out of 50 subjects, 25 (50 %) above 39 years of age, 15 (30%) subjects within the age groups of followed by of the sample was 29 to 38 years of age, and 10 (20%) subjects were between 18 & 28 years of age. percentage distribution of study sample hy gender. Out of 50 subjects, 25 (50%) were makes and remaining 25 (50%) were females of the sample was females percentage distribution of study sample by occupation out of 50 subjects 23 (42%) were females, followed by 13 (26%) employees, 14(18%) businessmen. 7(14%) housewives. percentage distribution of study sample by occupation out of 50 subjects 23 (42%) were females, followed by 13 (26%) employees, 14(18%) businessmen. 7(14%) housewives. the percentage distribution of study sample by educational status. Out of 50 subjects. 8 (16%) of the subjects were graduates 6 (12%) completed PUC level education, followed by 11 (22%) subjects with secondary level education, 8 (16%) primary level education and remaining 17 34%) illiterates. percentage distribution of udy sample by marital status. 14( 28% ) subjects were un-married compared to36( 72% ) married. the percentage distribution of study monthly income 18(36%) subjects had an income between Rs. 3001-5000,followed by 12( 24%) subjects with income below Rs.1000, 12(24%) above Rs.5001 and 8(16%) in Rs.1001-3000. percentage distribution of study monthly income 18(36%) subjects had an income between Rs. 3001-5000,followed by 12( 24%) subjects with income below Rs.1000, 12(24%) above Rs.5001 and 8(16%) in Rs.1001-3000.

About 58% know that malaria could be transmitted from one person to another most (97.2%) associated malaria with the bite of mosquito.

➤ *Section 2: Description of Vector Born Diseases Associated with Mosquitoes.*

- **Malaria:**

Percentage wise distribution of study subjects according to vector borne diseases associated with mosquitoes . in case . About 58% know that malaria could be transmitted from one person to another most (97.2%) associated malaria with the bite of mosquitos.

- **Dengue Fever:**

Percentage wise distribution of study subjects according to their vector borne diseases associated with mosquitoes. The result shows that health education messages can raise awareness during an outbreak but - do not ensure sustained larval control practices insufficient control agents, inadequate knowledge of control method.

- **Filariaris:**

Percentage wise distribution of study subjects according to their vector borne diseases associated with mosquitoes. In case on effect of water resources development and management on lymphatic filariaris of population at risk. The result showed that globally 2 billion people are at risk of life. Among them there are 394-5 million urban dwellers and 213 million rural dwellers living in close proximately irrigation.

- **Chikungunya:**

Percentage wise distribution of study subjects according to their vector borne diseases associated with mosquitoes. In case water storage containers like cement tanks, plastic containers earthen pots placed in front of individual houses were the potential breeding sites for Aedes aegypti. Out of the 13 acute sera sample collected, virus was isolated in 10 virus samples.

Table 1 Distribution of Respondents According to Socio-Demographic Variables

Socio-Demographic variables	No of respondents	% of respondents
<b>Age (in years)</b>		
18-28	10	20.00
29-38	15	30.00
39 and above	25	50.00
<b>Gender</b>		
Male	25	50.00
Female	25	50.00
<b>Occupation</b>		
House wife	7	14.00
Agriculture and Agri labour	21	42.00
Business	9	18.00
Employee and others	13	26.00
<b>Religion</b>		
Hindu	29	58.00
Muslim	21	42.00
Christian	0	0.00
<b>Educational qualifications</b>		

Illiterate	17	34.00
Primary	8	16.00
Secondary	11	22.00
PUC	6	12.00
Graduate and above	8	16.00
<b>Marital status</b>		
Married	36	72.00
Unmarried	14	28.00
<b>Monthly Income</b>		
Rs.<1000	12	24.00
Rs.1001-3000	8	16.00
Rs.3001-5000	19	38.00
Rs.5001 above	12	24.00
<b>Type of family</b>		
Joint	21	42.00
Nuclear	29	58.00
<b>Method of sewage</b>		
Spilling used water in front of house	23	46.00
Spilling used water in public drainage	27	54.00
Total	50	100.00

➤ Section 3: Testing of hypothesis for the evaluation of effectiveness of S.T.P

Table 2 Distribution of study subjects according to levels of knowledge in pre test and post test

Test	Levels of knowledge	Number	%
Pre test	Inadequate	25	50.00
	Medium	13	26.00
	Adequate	12	24.00
	Total	50	100.00
Post test	Inadequate	4	8.00
	Medium	29	58.00
	Adequate	17	34.00
	Total	50	100.00

➤ Section 4 : Association Between the Knowledge and Socio Demographic Variables.

Table 3 Comparison of Age Groups with Respect to Mean Scores of Knowledge

Test	Age (in years)	Knowledge scores	
		Means	Std.Dev.
Pre test	18-28 years	17.60	2.55
	29-38 years	16.93	3.92
	39 and above years	17.80	3.67
	Total	17.50	3.51
	F-Value	0.2819	
	P-Value	0.7556	
Post test	18-28 years	32.20	1.75
	29-38 years	33.47	1.41
	29 and above years	34.40	1.19
	Total	33.68	1.60
	F-value	9.3509	
	P-value	0.0004*	

Table 4 Comparison of Pre and Post Test Scores of Knowledge by Students Paired T-Test

Test	Mean	Std.Dev	Mean Diff.	SD Diff.	Paired t-value	p-value
Pre test	17.5000	3.5124	-16.1800	3.8209	-29.9429	0.0000*
Post test	33.6800	1.5964				

\*p<0.001\*

The above table represents as a comparison between pre test and post test knowledge score observed value ( $t=29.9429$ ) was greater than the table value (0.0000) a significant difference found between pre test and post test knowledge score. Thus the structured program was found

#### IV. DISCUSSION

Mosquito borne diseases are vital diseases with life threaten fever. Prevention and control of mosquito borne diseases has become more urgent with t Description about Respondents by demographic characteristics Out of 50 subjects 50 % were above 29 years, of age followed by 30 % (15) of the sample within 29 to 38 years of age, and 20%(10) in between 18 to 28 years of age 50% (25) of the sample were females and the rest of 50%(25) were males. 14% (7) of the sample were house wives, followed by 18% (9) businessmen, 26%(13) employees, and 42% (21) farmers. 58% (29) of the sample were Hindus, while 42% (21) were Muslims and non of the subjects were Christians. 16% (8) of the subjects were graduates 12% (6) completed PUC level education, 22% (11) completed the secondary level of education, 16% (8) had education till primary level and remaining 34%(17) were illiterate. 28% (14) of subjects were un-married and 72% (36) were married. 36% (18) of the sample had monthly income between Rs.3001/- to 5000/-, followed by 24% (12) subjects with income below Rs.1000, 24% (12) above Rs.5001, and 16% (8) between Rs-1001-3000. Majority 58% of the samples were nuclear family and the rest of 42% were from joint family. Majority of the (54%) of the samples spilling used water in public drainage followed by 46% spilling used water in front of house.

#### V. CONCLUSION

The study was undertaken to evaluate the effectiveness of structured teaching program on knowledge regarding prevention of mosquito borne diseases among rural people of Muchakhandi (Tq & Dist Bagalkot). The study involved one group pre-test and post test pre experimental design, with probability sampling technique in which simple random sampling method was used to draw the sample.

#### RECOMMENDATIONS

- A similar study can be replicated on a large sample to generalize the findings.
- A study can be conducted by including additional demographic variables.

#### REFERENCE

- [1]. Gubler DJ. Clar Clark G.G. the emergency of global health problem emergency infection diseases CAB International 1995: 26(2):55-7.
- [2]. Nagaraj c. National vector borne disease control programme karnataka Bangalore. Annual report - 2003.P. 26-30.

effective in improve in the knowledge of rural people teaching program was found effective in improve in the knowledge of rural people regarding prevention of mosquito borne diseases.

- [3]. Yasuoka J Levins .R. manglow TW. Spielman A. 2006 community –based ecosystem management for suppressing vector anophelines in Srilanka trans R soc TOP med :100.
- [4]. Fernando sd. Gun awardena DM Bandara MR. DC silva D. carter R. mandis KN Wickemalinghe AR. 2003. The impale- of repeated malaria AM J Trop and HGG 69:582-588.
- [5]. Outbreak of mosquito borne diseases Hit India by Anjana Pasricha New Delhi 05 October-2006.
- [6]. L loyd L.S. winch P. Ortega- canto J Kendall C. The design of a community based health intervention for the control of mosquitos AM. J. Trop mad HGG 1994 Apr:54(4):401-11.