

# EFFECT OF COMMUNITY PARTICIPATION ON KNOWLEDGE OF SELECTED VECTOR BORNE DISEASES AMONG THE SELF HELP GROUPS

Neethu Maria Babu<sup>1</sup>, Shashidara Y.N.<sup>2</sup> & Manjula<sup>3</sup>

<sup>1</sup>Student M.Sc. (N) (2011-13 Batch), <sup>2</sup>Head of the Department, <sup>3</sup>Assistant Professor, Department of Community Health Nursing, Manipal College of Nursing, Manipal University, Manipal – 576 104, Karnataka, India.

Correspondence:

Shashidara Y.N.

HOD, Department of Community Health Nursing, Manipal College of Nursing, Manipal University, Manipal - 576 104, Karnataka, India. E-mail : shashidarayn@yahoo.co.in

## Abstract :

The study is conducted to assess the effect of community participation on knowledge of selected vector borne diseases among the self help groups. The sample include eight self help groups having 10 members each, with 40 in the experimental and control group each. Research approach was quantitative-evaluative approach and design used was quasi experimental pre test post test control group design. The study was carried out in two phases. In the first phase, the health teaching by the researcher was given to selected members of self help groups with a duration of 45 minutes and in the phase 2, these trained members gave health teaching to the other members of the self help groups. A leaflet was given to the control group. The post test knowledge was assessed over a period of 7 to 9 days after the intervention in both the phases. The community participation has found to be effective with a p value of .001. The study concluded that the community participation was effective in terms of knowledge gain.

Keywords: Community Participation, Knowledge.

## Introduction :

World Health Organisation quotes that an estimated 300 million malaria infections occur each year, with 2 million deaths. They have identified malaria as one of the three major diseases of poverty along with HIV and tuberculosis. About 40% of the world's population is at risk. According to the World Health Organization (WHO), Dengue is the most rapidly spreading mosquito-borne viral disease in the world. It infects between 50 million and 100 million people annually, with 500,000 cases of the more severe infection known as dengue hemorrhagic fever.<sup>5</sup>

The chikungunya infection has showed a massive increase in its incidence as high as 5 million in India and South East

Asia since 2005 as per the report of WHO. India reported a massive chikungunya epidemic in 2006. Chikungunya has re emerged in India since 1973, when the attack rate was 37.5%. However, in

the 2006 epidemic, the attack rate increased to 45% in some places. The initial estimate of people affected with filariasis is 1.2 billion. The WHO bulletin of January 2012 says that more than 1.3 billion people in 72 countries worldwide are threatened by lymphatic filariasis, commonly known as elephantiasis and over 120 million people are currently infected, with about 40 million disfigured and incapacitated by the disease.<sup>6</sup>

A survey conducted in Bangalore in 2010, in the urban and rural areas to assess the knowledge, attitude and practice in determining the perceived risk by the community of mosquito borne infectious diseases and the level of knowledge regarding mosquitoes. The study result showed that more than 90% of the people interviewed perceived mosquitoes as a problem only rather than their disease causing potential. The researcher also has given stress in health education campaigns.<sup>7</sup>

Since it is evident that the vector borne diseases are prevalent, many studies have been done to determine the knowledge and practice on prevention of vector borne

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diseases among the adults. Studies have been also done to determine the effectiveness of community participation and it was found to be effective. Hence the investigator was interested to assess the effect of community participation in improving the knowledge and practice in prevention of selected vector born diseases.

#### Materials and Methods:

##### Study hypotheses:

The following hypotheses were tested at 0.05 level of significance.

- I H<sub>1</sub>: there will be no significant difference between post intervention knowledge scores on prevention of selected vector borne diseases between the experimental and control group
- I H<sub>2</sub>: there will be no significant difference between pre and post intervention knowledge scores on prevention of selected vector borne diseases within the experimental group

##### Study design and study population:

This quantitative study adopted an evaluative approach to identify the effectiveness of community participation on knowledge regarding prevention of selected vector borne diseases and the design used was quasi experimental pretest – post test control group design. The study population was all the adults who resides in the adopted villages of Manipal College of Nursing, Manipal which are Athrady and Hirebettu and comprised of 5000.

The estimated sample size was 15 in each group with a clinical significant difference of 5; however it was decided to select 40 in each group on the basis of 20% assumed attrition. The sample size was 40 in experimental group and 40 in control group.

Administrative permissions were obtained from the self help group incharge and informed consent from all participants. Ethical clearance was obtained from The Institutional Ethics Committee, Kasturba hospital, Manipal.

##### Data collection instruments and measurements

The following tools were used to collect the data

##### Tool 1: Background Proforma

The investigator, for collecting the background information of the sample, developed a demographic proforma. It consisted of 11 items such as age, gender, religion, educational status, occupation, income, type of family, exposure to vector borne diseases, awareness on vector borne diseases, source of information, and the duration of being in a self help group. The tool was validated by seven experts, translated into Kannada and pretested among five adults residing in a village.

##### Tool 2: Structured Knowledge Questionnaire on prevention of selected vector borne diseases

The questionnaire dealt with dynamics of disease transmission, epidemiological triad and the prevention and control. It had a total of 47 items divided into two sections, section A and B with 28 and 19 items in each section respectively. The items in the section A had 5 alternate responses and the items in the section B was dichotomous type. The respondents were requested to select the best possible option by encircling the correct answer. The minimum score was 1 and the maximum score was 47. Knowledge score was arbitrarily classified as inadequate (1-15), moderately adequate (16-31), adequate (32-47). The tool was validated by seven experts, translated into Kannada and pretested among five adults residing in a village and the reliability was tested by test retest method among 20 adults residing in a village and  $r = .89$

Pilot study was conducted among 20 sample and no changes were made in the tool or in the design of the study.

##### Procedure

The study was carried out in two phases. Tool 1 and 2 was administered among the selected participants. In the first phase, the health teaching by the researcher was given to selected members of self help groups with a duration of 45 minutes and in the phase 2, these trained members gave health teaching to the other members of the self help groups. A leaflet was given to the control group. The post test knowledge was assessed over a period of 7 to 9 days after the intervention in both the phases.

### Statistical analysis

The data were analysed using both Descriptive and inferential using Statistical Package for Social Science Version 16 (SPSS 16).

- I Descriptive statistics: Frequency and percentage distribution, mean and standard deviation were used to describe the sample characteristics.
- I Inferential statistics: Mann Whitney U test and paired t test was used to test the effectiveness of intervention between and within the group respectively.

### Results

#### Phase 1

- I Majority of the samples fall under the age category of 18-28 years (60%) in the experimental group and 30% in each categories for the control group.
- I In both the phases, all the samples are females and they all belong to Hindu religion.
- In the experimental group, 50% of the samples educational level is higher secondary and in control group, both primary and higher secondary with 40% each. In the phase 2, majority of them in the experimental group (60%) as well as in the control group (80%) had primary level of education
- None of them have suffered from any type of vector borne diseases in the past .
- I The mean pretest score was 24.10 and mean post test score was 29 which showed a significant increase in the mean scores with a SD of 3.604 and 4.497 respectively.

#### Phase 2

- I The majority accounts for 40-50 years of age (36.7%) in the experimental and 29-39 years (33.3%).
- I 100% of the people had moderately adequate knowledge on the pre and post test in the control group whereas, in the experimental group there was 100% in moderately adequate category which showed an increase to 50% in adequate knowledge category and 50% moderately adequate category.
- I The total mean was 19.79 pre interventional and 28.39 post interventional with an SD of 7.77 and 7.35 respectively
- I 20% of the people in the experimental group had

inadequate knowledge during the pretest and on the post test 19% had moderately adequate and 11% had adequate knowledge, whereas in the control group, 76.7% moderately adequate and 23.3 % had inadequate knowledge during the pre and post tests respectively

#### Effectiveness of community participation on knowledge between the groups

Knowledge	Median	Inter quartile range	Z value	P value
	21	15.75-22.00	5.788	.001 <sup>*</sup>

\*significant at  $p < 0.05$  level

#### Effectiveness of community participation on knowledge with in the group

Variable	Experimental group			t	df	p-value
Knowledge	Mean	Mean diff.	SD			
	8.967	9.7	4.295	11.435	29	.001 <sup>*</sup>

\*significant at  $p < 0.05$  level

#### Discussion :

In the present study , all(100%) the people had moderately adequate knowledge on the pre and post test in the control group whereas, in the experimental group it was 100% in moderately adequate category which showed an increase to 50% and falling under adequate knowledge category and 50% moderately adequate category. In phase 2, 20% of the people in the experimental group had inadequate knowledge during the pretest and on the post test 63.3% had moderately adequate and 36.7% had adequate knowledge, whereas in the control group, 76.7% moderately adequate and 23.3 % had inadequate knowledge during the pre and post tests respectively

The findings were supported by a survey done by Amul BP, Hitesh R, Shah P, Patel , Jignesh G, Sharma R, in the year of 2011. The results of the study showed that 90% of the samples agreed that mosquitoes are a problem. 30.4% did not know breeding sites of mosquitoes. Only 11.6% of people associated clean water collections with mosquito breeding. Regarding diseases transmitted by mosquito, 62% answered malaria, 37.4% were not aware and 8.8% people mentioned about Filariasis, Dengue or Japanese encephalitis. 4.7% granted mosquito control as responsibility of community. 61.4 % were using repellents for prevention against mosquito bites and 39% not taking

any preventive measure. The researchers concluded that the knowledge was inadequate.<sup>8</sup>

#### I Effectiveness of community participation

The present study findings reveal that the community participation is effective in terms of knowledge gain with a significance of  $p=.001$ .

The study is supported by a randomised controlled study done by Hien LTT, Takano T, Seino K, Ohnishi M, Nakamura K, to evaluate the effectiveness of an educational program entitled 'Capacity building' for community leaders in a healthy living environment. The researchers also aimed to assess the usefulness of a participatory style of education and the applicability of an intersectoral approach in the educational process. The study took place in Vietnam in the year 2005. There was a qualitative evaluation of the educational program by participants and facilitators to assess the appropriateness of the intervention. The intervention group showed a significant improvement

from the pre-test score of  $32.0+11.9$  to the post-test score of  $75.8+14.4$  ( $P, 0.001$ ), whereas no statistical change was observed in the control group. The conclusion was that the community leaders, who are representatives of various sectors and mass organizations within the community, can be important implementers in the promotion of a healthy living environment.<sup>9</sup>

#### Conclusions:

The following conclusion was drawn from the present study:

- I The community participation was effective in terms of gain in knowledge regarding prevention of selected vector borne diseases among the adults

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#### References:

1. Karnataka. National Vector Borne Disease Control Program. Program report; 2010 [internet]. Available from: [tripuranrh.in/NVBDCP.html](http://tripuranrh.in/NVBDCP.html)
2. 530 Malaria cases in 5 months. The Hindu 2012 July 25
3. Nine cases of dengue were reported in the Uttara Karnataka. The Hindu 2012 August 3
4. Two cases of chikungunya had been reported in the district The Hindu 2012 June 28.
5. Neglected tropical diseases, a peer reviewed open access journal. [internet]. The Neglected Tropical Diseases of India and South Asia: Review of Their Prevalence, Distribution, and Control or Elimination. Available from [www.plosntds.org](http://www.plosntds.org)
6. The journal of Tropical Medicine and International Health. February 2006(11):125-128.
7. Ravikumar K, Gururaj G. Dengue Bulletin. [internet]. 2005. Available from: [searo.who.int/LinkFiles/Dengue\\_Bulletins\\_c33.pdf](http://searo.who.int/LinkFiles/Dengue_Bulletins_c33.pdf).
8. Amul BP, Hitesh R, Shah P, Patel J, Jignesh G, Sharma R. perceptions regarding mosquito borne diseases in an urban area of Rajkot city. The National Journal of Medical Research [internet]. 2011;1(2):45-47. Available from: [http://njmr.in/uploads/1-2\\_45-47.pdf](http://njmr.in/uploads/1-2_45-47.pdf)
9. Hien LTT, Takano T, Seino K, Ohnishi M, Nakamura K. Effectiveness of a capacity-building program for community leaders in a healthy living environment: a randomized community-based intervention in rural Vietnam. Journal of Health Promotion International Advance Access [Internet]. 2005 [cited on 2008 Oct 28]: 3-11. Available from: [http://www.tmd.ac.jp/med/hlth/depHP/work/pdf/2008\\_e1](http://www.tmd.ac.jp/med/hlth/depHP/work/pdf/2008_e1).