ISSN 2515-8260 Volume 09, Issue 07, 2022

# Assessment Of Knowledge Regarding Vector Borne Diseases Among The Rural Population In Karad Taluka

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**Abstract:**
**Background:** Mosquito borne diseases are increasing problems in various parts of the world's . Every year more than 1 billion cases and over 1 million deaths from VBDs. In India, 27% population live in malaria high transmission area.Assessment of knowledge of vector born disease and preventive practices among rural community is important for designing community based interventions.
**Objective :**To assess the knowledge regarding vector born disease among the rural population in Karad Taluka .
**Design:** A quantitative approach using pre experimental one group pre-test post-test design.
**Methodology :** A community Based study was conducted in rural area of Karad Taluka, Maharashtra. Data was collected from 60 subjects selected with Probability Simple random sampling technique Data was collected by Structured Questionnaire on demographic variable and used to assess the level of Knowledge of subjects regarding Vector borne diseases.Data was analyzed by descriptive and inferential statistics.
**Results:** Overall knowledge score of sample was 9 (15%) are having good knowledge , 39 (65 %). average knowledge and 12 (20%) samples were having poor knowledge regarding Vector borne diseases. The mean pre-test knowledge score (11.9 ± 3.5). Whereas in post test knowledge score of sample was 11 (18.3%) having good knowledge , 41 (68.3%) average knowledge and 8 (13.3 %) having poor knowledge regarding Vector borne diseases. The mean post-test knowledge score (17.03 ± 3.3).
**Conclusion:** There is need to increase Community awareness about practices and methods to prevent vector borne diseases amongst people.

**Keyword-** Assess, Knowledge, Vector Borne Diseases, Rural Population

## INTRODUCTION-

In India, the major factor of communicable diseases is vector borne diseases(malaria, dengue, filariasis and chikungunya) and in many other Asian countries. Each year 700 million people get mosquito borne diseases resulting in over one million deaths[1].
There are 3541 species of mosquito tracked down in areas of tropical and subtropical regions of the world.[2] Mosquito borne diseases have emerged as serious public health problem in countries of south East Asia region[3].

In India, vector-borne diseases such as malaria, dengue, Chikungunya, Japanese Encephalitis (JE), Kala-Azar and Lymphatic Filariasis have considerable impact, in terms of morbidity and mortality. The epidemiology of these vector borne diseases varies considerably, on account of ecology, vector bionomics, and economic, socio cultural and behavioral factors.[4]
In 2018 World Malaria report about 219 million and 435,000 malaria cases and deaths were recorded in 2017.most prevalent infectious disease with around 216 million people at risk

from the diseases. In 2017 , in India nearly there were about 0.84 million cases of malaria and 194 deaths reported.[5]

In WHO African Region, 80 % of world wide malaria related mortality occurred in 2017.

Malaria transmission is influenced by environmental factors such as topography, rainfall, climate and socio economic conditions of the population. With warm temperature in tropical region, heavy rainfall, high humidity and low altitudes are conducive for mosquito breeding, longevity and parasite sporogony. Shifts in the altitudinal distribution of malaria towards higher altitudes in warmer years has been observed in Ethiopia and Colombia implying that, in the absence of intervention, as the climate warms the malaria burden will increase at higher elevation[6].

**NEED FOR STUDY:**

According to World Health Day 2012 there were 1.06 million cases of malaria were reported by 12 states, namely Odisha, Jharkhand, Chhattisgarh, Maharashtra, Madhya Pradesh, Gujarat, West Bengal, Uttar Pradesh, Assam, Rajasthan, Andhra Pradesh, and Haryana. According to global report saws that there are 216 million cases and 4, 45,000 deaths occur due to malaria and world malaria report 2017 estimates those 1.31 million cases and 23,990 deaths due to malaria. According to WHO November 2017 India has 4th highest number of malaria cases and deaths in world.[7]

Disease spread by vector kill a million people every year and more than half of the world's population at risk of vector borne diseases. In August 2018 Times of India reported 1363 cases of vector borne disease in one month. Vector-borne diseases account for more than 17% of all infectious diseases, causing more than 700 000 deaths annually.[8]

**STATEMENT OF THE PROBLEM:**

**"ASSESSMENT OF KNOWLEDGE REGARDING VECTOR BORNE DISEASES AMONG THE RURAL POPULATION IN KARAD TALUKA"**

**OBJECTIVES OF THE STUDY:**

- To assess knowledge regarding vector- borne diseases and it's preventive and control measures among the rural population in Karad Taluka.

**MATERIAL AND METHODS:**

Pre experimental one group pre test research design and quantitative approach was used and 60 subjects were selected for the study by using Probability Simple Random Sampling Technique A structured questionnaire was selected to assess the knowledge regarding Vector Borne disease.

**Inclusion Criteria :**

*1)* Who are available at the time of data collection.
*2)* Who are willing to participate in the study.
*3)* Who can understand Marathi and Hindi.

**Exclusion Criteria:**

*1)* Who are not available at the time of study.
*2)* Who are not willing to participate in the study

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**Tool for Data Collection:**

**Section I: Socio-demographic variables of subjects in rural population Kale Karad Taluka.**

This section elicited the socio-demographic information of the subjects regarding name, age, sex, education, occupation, income, type of family and source of information

**Section II: Structured questionnaire *on*** Knowledge of subjects regarding Vector Borne Diseases .

**Section III -: Preventive and control measures management.**

**DATA COLLECTIONS PROCEDURE:**

**Step 1:** Formal permission will be obtained from Ethical Committee.

**Step 2:** Formal permission will be obtained from KINS, Karad, Dist: Satara.

**Step 3:** Permission will be obtained from Taluka Health Officer (THO).

**Step 4 :** Selection of subjects in Kale.

**Step 5 :** Self introduction of the investigator.

**Step 6 :** On the day of pre test, at the very beginning, the client's were explained the purpose of the study & informed written consent was obtained from each client.

Step-7 : Awareness programme and survey in kale area.

**Step 9**: Data collected was tabulated & analyzed.

**Data Analysis plan:**

**Collected data was analysed as following the stepsmentioned below:**

- Entering the collected data in master sheet
- Demographic characteristics were expressed by Frequency (F) and percentage (%).
- Tables and diagrams were used to depict the analysed data.

**Data confidentiality and Anonymity of subjects :**

Data confidentiality and anonymity of subjectswere maintained throughout the research by allotting code number to participants.

**Ethics:** Institutional Ethics Committee approval was obtained for conduct of study.

Institutional Ethics Committeeapproval Number: KIMSDU/IEC/08/2022.

Protocol Number 166/2022-2023

**Results:**

**Finding related to demographic data:**

In this study overall the highest percentage in the demographic data including the Age group 46.67% (25yr-35yr), Gender 56.67% (Male), Religion 95% (Hindu), Education 23.33% (Higher Secondary), Occupation 33.33 % (House wife), and Monthly income 43.33% (15001- Above), Type of family 75% (Joint Family), Source Of Information 56.67% (Health worker).

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**Table-I : Finding related to pre test knowledge score:**

| Level of Knowledge | Pre-test | |
|---|---|---|
| | Frequency | Percentage (%) |
| Good | 9 | 15 % |
| Average | 39 | 65 % |
| Poor | 12 | 20 % |

**TABLE – II Distribution of subject on paired 't' test of knowledge score regarding Vector Borne Diseases among Rural Population.**

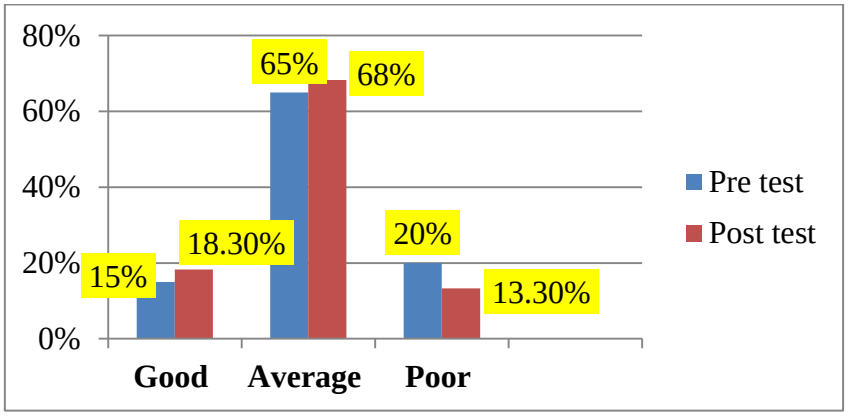
| Parameter | Mean | Median | Standard Deviation | 't' Value |
|---|---|---|---|---|
| Pre test | 9.3 | 9 | 2.8 | t=25.633 |

**Table-III** -Area wise distribution of subjects according to knowledge pre test and post test scores regarding vector borne diseases and it's preventive and control measures.

| Area of analysis | | No. of subjects | | No. of subjects | |
|---|---|---|---|---|---|
| Knowledge regarding vector borne diseases and it's preventive and control measures. | | Pre-Test | % | Post-Test | % |
| 1 | Good | 9 | 15% | 11 | 18.3% |
| 2. | Average | 39 | 65% | 41 | 68.3% |
| 3. | Poor | 12 | 20% | 8 | 13.3% |
| | **Total** | 60 | 100 % | 60 | 100% |

**Table III** -depicts that the in pre test 39 (65%) subjects having average knowledge 9 (15%) having good knowledge whereas 12(20%) having poor knowledge regarding vector borne diseases and it's preventive and control measures whereas in post test 41 (68.3%) subjects having average knowledge, 11 (18.3%) having good knowledge whereas 8 ( 13.3 %) having poor knowledge regarding vector borne diseases and it's preventive and control measures.

**Graph No. 1 :**




**Graph -1** depicts that the in pre test 15% subjects were having good knowledge but in post test 18.3% subjects are having good knowledge, 39 (65%) subjects having average

knowledge in pre test but in post test 41 (68.3%) subjects having average knowledge whereas in pre test 9 (15%) having poor knowledge and in post test 11 (18.3%) having poor knowledge regarding vector borne diseases and it's preventive and control measures

**Table IV : - Distribution of subjects according to mean ,median, mode ,SD, and range of pre and post test knowledge scores regarding vector borne diseases and it's preventive and control measures**

| Area of analysis | Mean | Median | S.D | P Value | t value |
|---|---|---|---|---|---|
| **Part A** (Pre Test Knowledge Regarding vector borne diseases and it's preventive and control measures | *9.3* | 9 | **2.8** | **<0.0001** | ***25.633*** |
| **Part B** ( Post Test Knowledge Regarding vector borne diseases and it's preventive and control measures) | *17.03* | 17 | 3.3 | **<0.0001** | *39.814* |

Above tables depicts that the knowledge regarding vector borne diseases and it's preventive and control measures mean (9.3) & median (9) whereas in post test mean (17.03 ) & median (17 ).

In present study findings regarding Vector Borne Diseases 9 (15%) subjects are having good knowledge regarding vector borne diseases and it's preventive and control measures whereas 39 (65%)subjects are having average level of knowledge and 12 (20%) subjects are having Poor knowledge on Vector Borne Diseases in pre test whereas in post test 41 (68.3%) subjects having average knowledge, study conducted by **Laxmikant Shinde, Ranjitsing Bayas**, 2019 i.e 71% population are aware that mosquito bites only at evening (6-8 pm.) rest of 18% people thinks that at midnight only 11 (18.3%) having good knowledge whereas 8 ( 13.3 %) having poor knowledge regarding vector borne diseases and it's preventive and control measures **study conducted by Joshi Sonopant** shows that overall knowledge score of sample was 36.5 (60.83 %) and 88 % of the samples expressed that they do not have closed drainage system .Mosquito breeding places are found in villages whereas in our study found that due to open drainage system mosquito breeding places found.

Our survey shows that 60% population are aware about dry day but they didn't follow dry day and 10% population have no idea about it means in all 70% population didn't follow dry day concept.[9]

**Finding related to association between pretest knowledge score of Rural Population with selected demographic variables:**

Table show that the chi–square test to associate the level of knowledge of Vector Borne Diseases and selected demographic variable. The chi square values show that monthly income and type of family are significantly associated whereas study conducted by **Sejalpatel** in 2019 the chi square was less than the table value at the 0.05 level of significance and another study by **Joshi Sonopant** found that knowledge of practices about prevention of vector borne diseases was significantly associated with education status of samples in the villages.[10]

**RESULTS:**

Overall knowledge score of sample was 17 (28%) of the subject are having average knowledge, 39 (65 %) and 4 ( 7%) are having good knowledge. The mean pre-test knowledge score (11.9 ± 3.5) Whereas in post test knowledge score of sample was 11 (18.3%) having good knowledge , 41 (68.3%) average knowledge and 8 (13.3 %) having poor knowledge regarding Vector borne diseases. The mean post-test knowledge score (17.03 ± 3.3).

**Discussion-:**

Due to poor environmental and social conditions (e.g lower quality housing situated closer to vector breeding sites) and lack of access to preventive and curative health interventions and services there is high risk for increasing vector borne diseases.

**Finding related to demographic data:**

In present study highest percentage in the demographic data including the Age group 46.67% (25yr-35yr), Gender 56.67% (Male), Religion 95% (Hindu), Education 23.33% (Higher Secondary), Occupation 33.33 % (House wife), and Monthly income 43.33% (15001-Above), Type of family 75% (Joint Family), Source of Information 56.67% (Health worker) whereas **study conducted by Dr. Dayalal Patidar Ms.Sejal Patel**in 2019 shows that age group 40 % above 40 yrs, gender 58 % (Female) , Marital status 75 % married , Education 43 % (Joint family),Type of House 62 % (Kaccha house), previous knowledge 65 % yes.[11]

**Finding related to pre knowledge score:**

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## CONCLUSION:

The present study showed that that the respondents from the rural population had average knowledge regarding vector borne diseases and the time of mosquito bite. Creating awareness among rural population is required to control and prevent VBDs. It was necessary that the individual from the rural population should follow a dry day at least once a week and maintains cleanliness in the surroundings.

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