INTRODUCTION

The name of the disease ‘Chikungunya’ is derived from the Makonde word that means “which bends up” and is in reference to the stooped posture that develops due to the arthritic symptoms and chikungunya is also called as chikungunya fever or chikungunya virus (CHIKV).\(^1\) Chikungunya is a viral disease transmitted to humans by the bite of infected mosquitoes. The disease was first described in 1955 by Marion Robinson\(^1\) and W.H.R.Lumsden\(^2\) following an outbreak in 1952 on the Makonde Plateau, along the border between Tanganyika and Mozambique\(^2\).

STATEMENT OF THE PROBLEM

“A study to assess the effectiveness of a video assisted teaching programme on knowledge of rural population regarding prevention of chikungunya in a selected rural area at Mangalore”.

NEED FOR THE STUDY

An under developing country, like India carries the major burden of communicable diseases especially those who are caused by Sub-standard living and environmental condition. Vector born diseases like Malaria, Dengue, Filaria etc. and recently in India with multiple outbreaks since 2005. Chikungunya appeared in India has no cleaning house for information about the debilitating infection and convalescence.

According to statistics, Chikungunya has been reported in 2.860 village affected 2.86 lakhs people in Bijapur, Gulbarga, Bidar, Bellary D.K, Davangere, Chickmagalur and Hassan districts have been the worst hit.

OBJECTIVES

The objectives of the study are

1. To assess the existing knowledge on prevention of chikungunya among the family members by using structured knowledge questionnaire.
2. To administer Video Assisted Teaching Programme on prevention of chikungunya.
3. To find the effectiveness of Video Assisted Teaching Programme by using same structured knowledge questionnaire.
4. To find out the association between the pre-test knowledge Scores and selected demographic variables such as age, gender, etc.

HYPOTHESES

All hypotheses will be tested at 0.05 level of significance

\(H_0\): The mean post-test knowledge scores of the family members will be significantly higher than their mean pre-test knowledge score.
H_2: There will be a significant association between pre-test knowledge scores and selected demographic variables.

CONCEPTUAL FRAMEWORK
The conceptual framework is based on general system theory with input, process, output and feedback, first introduced by Ludwig Von Bertalanffy (1968). (Fig 1)

In the present study, these concepts can be explained as follows

Input: Subject is a system and has input within the system, itself and acquired from the environment. These inputs include subject’s background like age, gender, educational qualification, occupation, and family income per month; this may influence knowledge of subjects.

Process: It is the action needed to accomplish the desired task. To achieve the desired output, to assess the effectiveness video assisted teaching programme on prevention of chikungunya, the following process was adopted. Preparation of video assisted teaching programme, preparation of blue print for knowledge questionnaire on prevention of chikungunya and assessment of knowledge by using knowledge questionnaire prior to and after administration of video assisted teaching programme.

Output: The output indicates gain in knowledge of family members after administration of video assisted teaching programme.

Feedback: It is the process that provides information about the system output and act as input.

Environment: It refers family members environment is fixed constraints that influence the effectiveness of video assisted teaching

![Fig 1: Modified Conceptual framework on the development of VATP for family members on prevention of chikungunya based on System Model by Von Bertalanffy (1968).](image)

REVIEW OF LITERATURE
A study was conducted on co-infections with chikungunya virus and dengue virus in Delhi, India, by Chahar HS, Bharah P, Dar L, Guleria R, Kabra SK, Broos Aedes aegypti mosquitoes are common vectors for dengue virus and chikungunya virus. In areas where both viruses circulate they can be transmitted together during a dengue outbreak in Delhi 2006, 17 of 69 serum samples were positive for chikungunya virus by reverse transcription-PCR, 6 Samples were positive for both virus.
Conducted a study on clinical symptoms in affected cases at Kerala. Highlighted high fever, severe myalgia, and prolonged arthralgia by M, Kannan. R, Rajendran. I.P,Sunish A total of 1265 persons from 310 houses were surveyed door-to-door in 20 different localities, The history and examination findings from 354 clinically diagnosed chikungunya cases were recorded. The major symptoms were fever (100%), arthralgia (99.4%), myalgia (99%), and headache (97.5%), these symptoms were reported to be lower (12.2-89.8%), in young age group than in older age group (90.4-100%) and no gender wise difference was observed for any of the symptoms.10

RESEARCH METHODOLOGY
RESEARCH APPROACH
The research approach adopted for this study was an evaluative approach as the researcher aimed at assessing the effectiveness of a VATP on knowledge of prevention of chikungunya. An evaluative research is an applied form of research that involves assessing how well a specific programme, method, procedure or product is tested to assess its applicability, quality, feasibility, and desirability in terms of same meaningful criterion measure62.

RESEARCH DESIGN
The research design selected for the present study was pre-experimental study one group pre-test post-test design. The O₁ and O₂ are the base measure introduced by the investigator for the purpose assessing the effectiveness of VATP.
One group pre-test post-test design (O₁ X O₂) was adopted for the study. The study design comprises of 2 phases as shown in the figure below, the phase I deals with preparation, validation of tool and VATP. Phase II comprises of assessment of knowledge of family members on prevention of chikungunya by structured knowledge questionnaire (O₁), administration of VATP on same day (X), post -test on 7th day using the same questionnaire (O₂ ). Finally assessment of effectiveness of VATP was done by descriptive and inferential statistics.
The schematic representation of the study design is as follows.

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>Tool techniques</td>
</tr>
<tr>
<td>30 Family Members of rural area (kuppepada rural area)</td>
<td>Development of structured knowledge questionnaire.</td>
</tr>
</tbody>
</table>

| Part I | Demographic data |
| Part II | Structured knowledge questionnaire. Development of VATP on prevention of chikungunya, |
RESEARCH SETTING
The study was conducted in selected rural area. Pilot study was conducted in kelenjar village which comes under Kuppepadau PHC, Dakshina Kannada District, Mangalore.

POPULATION
In this study, the population refers to the family members includes father, mother, husband and wife, those who is residing in rural area and staying together or separately.

SAMPLE AND SAMPLING TECHNIQUE
Sample is the subset of the units from the defined population, selected to participate in the study. The family members were selected using non-probability sampling technique. Therefore a convenient sampling technique was used to obtain 30 family members for the study.

SAMPLE SIZE
Based on the objectives of the study 30 samples were selected by using convenient sampling technique.

CRITERIA FOR SAMPLE SELECTION
The following were the inclusion and exclusion criteria set for the selection of the sample.

Inclusion criteria
1. Those family members who are willing to participate in the study.
2. Family members residing in selected rural area.
3. Family members who know kannada to read and write
4. Family members whose age group is above 20 years

Exclusion criteria
1. Family members who are absent during data collection are excluded.
2. Family members who do not know Kannada to read and write
3. Family members whose age group is below 20 years

DATA COLLECTION INSTRUMENT
A structured questionnaire is a method of gathering self report information from respondents through self-administration of questionnaire in a paper and pencil format.

In this study, a structured knowledge questionnaire was used for the data collection; on family members of a selected rural area

Description of final tool
The final tool is comprised of 2 parts.

Part I: Demographic Data
It consists of identification data such as age, gender, Educational qualification, Occupation, and Income of the family.

Part II: Structured knowledge questionnaire on prevention of chikungunya.
Structured knowledge questionnaire on prevention of chikungunya consisted of 30 knowledge questionnaire covering areas like; meaning, prevalence, cause, 11 (37%). Signs and symptoms 05(17%) and Prevention and control 14 (46%). Total possible score was 30.

METHOD OF DATA COLLECTION
The investigator obtained written permission from the P.H.C Medical Officer Kuppepadau, Mangalore. And also took the permission from the D.H.O of D,K District prior to data collection. The investigator assured the confidentiality to the subjects and their responses and consent was obtained. The pre-test
and VATP was conducted on thirty family members on November 2009 using structured knowledge questionnaire. The time taken by each session was 25-30 minutes. After seven days of pre-test, the post-test was conducted for family members into two sessions respectively on November month, using same structured knowledge questionnaire to assess the effectiveness of Video Assisted teaching programme. The average time taken for post-test was 25 -30 minutes. The data collection was terminated by thanking each family member for their participation and co-operation. The collected data was compiled for data analysis.

**PLAN FOR DATA ANALYSIS**

Data was planned to be analyzed on the basis of objectives and hypotheses

a) Demographic data would be analyzed in terms of frequency and percentage.

b) The knowledge score of family members before and after the video assisted teaching programme would be analyzed in terms of frequency, percentage, mean, median, and standard deviation.

**RESULT**

**PART I: DESCRIPTION OF DEMOGRAPHIC VARIABLES OF FAMILY MEMBERS RESIDING IN RURAL AREA.**

Table 1: Frequency and Percentage distribution of demographic variables of family members  
\( n = 30 \)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Variables</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Age in years:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-30</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>41 And above.</td>
<td>03</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male.</td>
<td>23</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Female.</td>
<td>07</td>
<td>23</td>
</tr>
<tr>
<td>3</td>
<td>Educational Qualification</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSLC</td>
<td>08</td>
<td>26.7</td>
</tr>
<tr>
<td></td>
<td>PUC</td>
<td>14</td>
<td>46.6</td>
</tr>
<tr>
<td></td>
<td>Graduation</td>
<td>06</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>No formal education.</td>
<td>02</td>
<td>6.7</td>
</tr>
<tr>
<td>4</td>
<td>Family Income per month</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; Rs.1000</td>
<td>10</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>Rs.1000– Rs.2000.</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Rs.2000– Rs.3000.</td>
<td>05</td>
<td>16.7</td>
</tr>
<tr>
<td></td>
<td>&gt; Rs. 3000</td>
<td>03</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agriculture</td>
<td>20</td>
<td>66.7</td>
</tr>
<tr>
<td></td>
<td>Business</td>
<td>04</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>Professional</td>
<td>03</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>03</td>
<td>10</td>
</tr>
</tbody>
</table>

Pre-test and post-test score on prevention of chikungunya among family members
A Percentage of Pre-test and post-test knowledge scores on prevention of chikungunya.

![Pyramid diagram showing the percentage of pre-test and post-test knowledge scores on prevention of chikungunya.](image)

**Fig 9:** Pyramid diagram showing the percentage of pre-test and post-test knowledge scores on prevention of chikungunya.

**Section D: Area wise effectiveness of Video Assisted Teaching Programme on prevention of chikungunya.**

![Bar chart showing area wise effectiveness.](image)
Testing of Hypothesis

Significance of difference between pre-test and post-test knowledge scores of family members on prevention of chikungunya

Findings revealed that the mean post-test scores of family members were significantly higher than the mean pre-test score. The calculated ‘t’ value was greater than the table value in all areas. Hence, null hypothesis was rejected and research hypothesis was accepted. This indicating that gain in knowledge was not by chance. Therefore, it is concluded that, the gain in knowledge of family members through video assisted teaching programme on prevention of chikungunya was significant (Table 10).

Association between pre-test knowledge scores and demographic variables

Chi-square test was done to analyze the association between pre-test knowledge scores and selected demographic variables. The study findings shows that there is no association between pre-test knowledge score with demographic variables like age, gender, educational qualification, occupation, and family income.(p>0.05). Hence, the significant association will be, by enhance, thus the null hypothesis was rejected (Table 11). Therefore, it is concluded that the gain in knowledge of family members through video assisted teaching programme on prevention of chikungunya was significant.

IMPLICATION OF THE STUDY:-

The findings of the study can be used in the following areas of nursing profession.

1. Nursing Practice
   - Nursing professionals working in the community as well as in the hospital can understand the importance of health education regarding chikungunya and its prevention.
   - Nursing professions can play a key role in enhancement of knowledge of adults regarding chikungunya and its prevention, which could change the attitude of adults towards the disease and its prevention.

2. Nursing Education
   - As a nurse educator, there are abundant opportunities for nursing professionals to educate the adults as well as their family members regarding chikungunya and its prevention.
   - The study emphasizes significance of short term in service education programmes for nurses and peripheral health workers related to health education of adults regarding chikungunya and its prevention.

3. Nursing Research
   - This study helps nurse researchers to develop appropriate health education tools for educating the adults regarding chikungunya and its prevention according to their demographic, socio-economic, cultural and political characteristics.
   - Nurses should come forward to take up unsolved questions in the field of chikungunya and its prevention to carryout studies and publish them for the benefit of patients, public and nursing fraternity. The public and private agencies should also encourage research in this field through material and funds.

4. Limitations of the Study
   - The study is limited to rural people age group above 20 years who reside at Kuppepadau PHC Dakshina Kannada district.
   - Small number of subjects limits generalization of the study.
Only a single domain that is knowledge is considered in the present study.
The sample for the study was limited to 30 family members of village only.

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

- A similar study can be replicated on a large sample to generalize the findings.
- A study can be conducted by including additional demographic variables.
- A similar study can be conducted among other age group persons.
- Manuals, information booklets and self-instruction module may be developed in areas of chikungunya.

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