

EFFECTIVENESS OF VIDEO ASSISTED TEACHING ON KNOWLEDGE AND ATTITUDE REGARDING VECTOR BORNE DISEASES AMONG FARMERS

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ABSTRACT

Vector borne diseases that results from an infection transmitted to humans and other animals blood feeding arthropods such as mosquitoes. The disease has since spread worldwide, common vector borne diseases caused by mosquito are malaria, dengue, chickunguinea and filariasis. Community base health education programmes are important to control the spread of disease. **Objectives:** The primary objective of the study was to evaluate the effectiveness of video assisted teaching on knowledge and attitude regarding vector borne diseases. **Methodology:** The conceptual framework used in the study was the Imogine King's Goal Attainment Theory. A quantitative approach with pre experimental design was adopted for the study. Sample of 60 farmers were selected by purposive sampling technique. Data were collected by interview method by using structured knowledge questionnaire and attitude scale. The data were analyzed by frequency and percentage distribution, mean, standard deviation, 't' test, chisquare test and fisher's exact test. **Results:** The results showed that among 60 farmers, in the pretest 63.3% (38) of them had moderate knowledge, 0% (0) of them had adequate knowledge regarding vector borne diseases, whereas in posttest 58.3% (35) had adequate knowledge and 41.7% (25) of them had moderate knowledge. Regarding attitude in pretest, 73.3% (44) of them had unfavourable attitude and 26.7% (16) of them had favourable

attitude regarding vector borne diseases, whereas in posttest, 15% (9) of them had unfavourable attitude, 85% (51) of them had favourable attitude towards vector borne diseases. The mean posttest knowledge score ($M_2 \pm SD_2=19.98 \pm 2.777$) of farmers regarding vector borne diseases was higher than the mean pretest knowledge score ($M_1 \pm SD_1=11.72 \pm 2.421$) with MD=8.267 and 't' value 27.336 ($p=0.001$) was significant at $p<0.05$. And the mean posttest attitude score ($M_2 \pm SD_2=20.40 \pm 3.596$) of adults towards vector borne disease was higher than the mean pretest attitude score ($M_1 \pm SD_1=17.02 \pm 2.550$) with MD 2.467 and 't' value 6.896, ($p=0.001$) was significant at $p<0.05$. There was no significant association between the knowledge and attitude regarding vector borne diseases and selected demographic variable among farmers. **Conclusion:-** The study concluded that the video assisted teaching was effective in improving knowledge and changing the attitude regarding vector borne diseases among farmers. The study recommended that the video assisted teaching regarding vector borne diseases can be conducted in various settings.

INTRODUCTION

'Prevention is better than cure'

Desiderius Erasmus

BACKGROUND OF THE STUDY

Health is a gift of God and Nature. Good health is the fundamental right of every human being. Good health is essential to lead both a quality and successful life. Health is considered as a state of complete physical, mental, social and spiritual well being not merely the absence of disease or infirmity. The cause of disease is considered to be the imbalance or the maladjustment between man and his environment. Environment has the direct impact on the health of individual, family and community¹.

We depend entirely on a healthy natural environment for health, wealth and well being. It is fundamental to our economy and social structure our homes and neighbourhoods, our ability to create and construct things and to our health and happiness. We are part of nature, not from it. It is notable that environment is not a single subject rather it is an integration of several subjects including both science and social studies. We live in a world where water,

air, soil, forest, oceans, agriculture, live stock etc. are parts of our life support system. Without them life itself would be impossible. But all these components must be healthy for our health and longevity of our life. In other words, all the external elements living or non living, material and non material surrounding the man constitute the environment. This explains that health of a man is associated with every element of environment. Since every change in the environmental conditions affects the health, clean and safe environment can be termed as the basis of good health.

Here it is important to mention that earlier the “environmental sanitation” was used to express the relation between environment and health. Word ‘sanitation’ means “the conscience of safe guarding health” or the way of living cleanly in all aspects of life, on the basis of which one can protect himself against diseases and improve his health. Clean and hygienic conditions needed for good health are related to environment. Thus environment and health have a deep interrelation. For good health level, it is essential to have a clean external environment as well as a clean internal environment which affects the mental health of the person. Factors which are in touch with a person for all his life and also have a direct effect on his health, development and life expectancy are considered to be the constituents of physical environment.

Vector borne diseases are considered the most serious diseases. The seriousness of vectors because of their ability to transmit the disease at a large scale in shorter time than other infectious diseases that necessitate human to human contact. Treatment of vector borne diseases is difficult and the prevention essentially necessitates the elimination of the vector. Vectors are living organisms that can transmit infectious diseases between humans or from animals to humans. Often found in tropical regions where insects prevail and access to drinking water and sanitation is not safe.

Mosquitoes are one of the deadly animals in the world. Environmental pollution has become a global threat. It has been proved that polluted environment is responsible for many diseases. Biological environment includes the organisms such as animals, insects, rodents which can cause diseases. Disease that results from an infection transmitted to humans and other animals by blood-feeding anthropods, such as mosquitoes. Examples of vector-borne diseases include Dengue fever, chickungunea, filariasis and malaria².

Rubber farmers are very much essential for the survival of human society. Rubber farmers contribute a lot of efforts to the economic growth of the country. It is our sole duty to respect every farmer. Rubber farmers are carefully stripping bark from the trees to extract a milky white sap which is shaped into sheets and dried in the sun. Rubber farmers are collecting latex from the rubber trees. Natural rubber is one of the most important polymers for human society. Natural rubber is an essential raw material used in the creation of more than 40000 products. It is used in medical devices, surgical gloves etc³.

Video assisted teaching (VAT) is defined as a strategic teaching approach to using videos (either educational or conceptual) to improve the people's comprehension, cognitive ability or social emotional skills. Keep videos brief and targeted on learning goals. Use audio and visual elements to convey appropriate parts of an explanation. Use to highlight important ideas and concepts. Use a conversational, enthusiastic style to enhance engagement.

Nurses are educated to convey scientific and medical information in ways that are understandable to different populations. Providing nurses with information and plain language tools to teach populations with whom they interact about the complex living cycles and relationships of mosquito-borne illnesses is essential. Each nurse, as a behaviour role model, can have a pivotal role in teaching the transmission cycle, vector ecology, and disease manifestations of mosquito borne viruses.

Nurses play a vital role to prevent mosquito borne diseases outbreaks. Nurses are on the frontline whenever any crisis develops whether it is a local outbreak or a pandemic. Nurses can help to prevent the spread of diseases by providing health education, developing health programmes, supervising health campaigns and contributing their knowledge to public health work. Whenever mosquito borne disease outbreaks occur, the role of nurses is to lead the way in providing safe and effective care even under stressful circumstances.

Nurses provide a substantial frontline defence in the fight against mosquito borne diseases. By understanding how pathogens spread, taking precautions to prevent transmission and facilitating patient education, nurses can greatly reduce the likelihood of outbreaks and improve the safety of all involved⁴.

NEED FOR THE STUDY

Health is considered as a state of complete physical, mental, social and spiritual well being not merely the absence of disease or infirmity. Vector borne diseases are preventable diseases if adequate measures are taken.

Environmental pollution has become a global threat. It has been proved that polluted environment is responsible for many diseases. Biological environment includes the organisms such as animals, insects, rodents which can cause diseases. Disease that results from an infection transmitted to humans and other animals by blood-feeding arthropods, such as mosquitoes. Examples of vector-borne diseases include **dengue fever, chickungunea, filariasis and malaria.**

Vectors (mosquitos, houseflies etc.) are of major public health concerns in areas with poor sanitation and hygienic conditions. Unfortunately sanitation and hygiene have always been ignored among farmers particularly in rural areas. Management of these vectors mostly depends on the awareness regarding associated hazards and protection measures taken by the people to minimize risks associated with vectors. The present study therefore explores the knowledge and attitude taken by farmers in rural areas⁵.

Vector-borne diseases account for more than 17% of all infectious diseases, causing more than 700 000 deaths annually. They can be caused by either parasites, bacteria or viruses. Malaria is a parasitic infection transmitted by Anopheles mosquitoes. It causes an estimated 219 million cases globally, and results in more than 400,000 deaths every year. Most of the deaths occur in children under the age of 5 years. Dengue is the most prevalent viral infection transmitted by Aedes mosquitoes. More than 3.9 billion people in over 129 countries are at risk of contracting dengue, with an estimated 96 million symptomatic cases and an estimated 40,000 deaths every year⁶.

More than one million deaths and 300 - 500 million cases are still reported annually in the world. It is reported that malaria kills one child every 40 seconds. In the United States malaria affected colonization along the eastern shore and wasn't effectively controlled until the 1940s when mosquito control organization instituted Anopheles control programs. A resurgence occurred during the 1960s and early 70s in the United States due to returning military personnel from Vietnam. Minor outbreaks of locally-acquired malaria occur sporadically in the United States, but have been quickly controlled by aggressive mosquito control measures. The influx of illegal immigrants in addition to returning tourists may provide for infrequent outbreaks in the future.

A comparative study on knowledge and perception of vector borne diseases among rural and urban population in Tamil Nadu. The study was conducted during June 2018 to December 2018. Males and Females above 18 years of age, who is a local resident of the area for at least 6 months and who has consented for the study were included in the study and morbidly sick people and persons not available during the three consecutive visits were excluded from this study. The difference was statistically significant with 'p' value 0.0097. The study recommends that the knowledge and practice of preventing vector borne disease is still lacking among both rural and urban participants. So there is lack of studies available in Kerala regarding vector borne diseases among farmers, the researcher has chosen this topic to study⁷.

Community Health Nurses interact with patients on a daily basis and are trained to convey complex scientific and medical information in ways that are understandable to different populations. For this reason, nurses are critical partners to teach about prevention and control of mosquito borne illnesses. Nurses are trusted health professionals in a unique position to influence awareness and education about vector ecology transmission and clinical characteristics of these diseases in ways that are easily understandable and to help in reducing mosquito borne transmission and control growing epidemics.

A cross sectional study conducted to assess the knowledge and practice regarding Vector borne diseases (VBD) form a major part of the communicable diseases. Of these, diseases spread by mosquitoes particularly malaria are more rampant due to relatively greater presence of mosquitoes in the community. A cross sectional study was conducted in three randomly selected wards of Siliguri Municipality area, Darjeeling, West Bengal from January to March 2014 among 156 eligible study subjects, to assess their knowledge & practices regarding malaria. 87.8% of the participants heard about malaria & 70.8% of them knew mosquito bite as causative agent & 71.5% of them mentioned drain as breeding places of mosquito. The results are about 46.8% of the population was mosquito repellent users. So emphasis must be given on involvement of the health sector & also community participation to effectively meet the challenges of prevention and control of malaria⁸.

Rubber farmers are more prone to get vector borne diseases. Because they are not aware about the mosquito control measures. Being a community health nurse when I went to do the field work, I came to know about the lack of awareness among the rubber farmers. So it is important to conduct community base health education programme

among rubber farmers. The investigator felt that creation of awareness programmes help the farmers to improve the knowledge and attitude regarding vector borne diseases. The video assisted teaching regarding vector borne diseases help the farmers to improve their knowledge and attitude. Hence the study aimed to investigate the effectiveness of video assisted teaching on knowledge and attitude regarding vector borne diseases among farmers.

3.1 Population and sample

POPULATION

The entire set of individuals or objects having some common characteristics in which the researchers are interested and to which they would like to generalize the research findings. The target population of present study includes farmers. The accessible population of present study includes farmers from rural areas of Kottarakkara.

SAMPLE AND SAMPLING TECHNIQUE

Sample is a part or subset chosen to represent the population and is used to make generalization about the population. In this study, the sample of 60 farmers selected in rural areas of Kottarakkara.

The sample were selected by using purposive sampling technique.

Inclusion criteria

The study includes, the farmers

1. who were willing to participate in this study.
2. who can read, understand and speak Malayalam.

Exclusion criteria

The study excludes, the farmers

1. who were not available at the time of data collection
2. who were attended the program on vector borne diseases.

TOOL/INSTRUMENTS

Data collection tools are instruments used by investigator to observe or measure the dependent variable in the research problem. In this study, structured knowledge questionnaire and attitude scale were used to collect the data from the farmers.

Development/Selection of tool

The instrument selected or developed in a research should be the best for obtaining data that are pertinent to the study. After an extensive review of literature, discussion with guide and experts, investigator's personal and professional experience, structured knowledge questionnaire and attitude scale regarding vector borne diseases among farmers were developed in English and validated. Tool were translated in Malayalam and obtained language validity.

Description of the tool

The tool used in the present study consisted of :

Section A : Demographic variables

This section consists of demographic variables of farmers, such as age of farmers, gender, religion, marital status, type of family, educational status, dietary pattern, family monthly income, history of any chronic disease, past history of any surgeries, previous knowledge regarding vector borne diseases and source of previous knowledge regarding vector borne diseases were collected by self report interview method using questionnaire.

Section B : Structured Knowledge questionnaire

This section consists of 30 items of structured knowledge questionnaire focusing knowledge regarding vector borne diseases. It was constructed based on different content areas such as introduction of vector borne diseases, definition of vector borne diseases, risk factors of vector borne diseases, types of vector borne diseases, mosquito control measures, preventive measures of vector borne diseases, role of community health nurse to prevent vector

borne diseases and role of society to prevent vector borne diseases. The information were collected by self report interview method by using structured questionnaire. Total score of 30 were given for knowledge assessment to interpret the level of knowledge, the score were distributed

as

0-10 : Inadequate Knowledge

11-20 : Moderate Knowledge

21-30 : Adequate Knowledge

Section C : Attitude scale

This section consists of 15 items of attitude of farmers regarding vector borne diseases. There was 14 positive and 1 negative statements. A total of 30 marks were given for attitude assessment each item given with the score of 2 for agree, 1 for uncertain and 0 for disagree. The information were collected by self report interview method by using attitude scale. For negative statements, each item was with the score of 0 for agree, 1 for uncertain and 2 for disagree. To interpret the quality of attitude, the scores were distributed as

0-15 : Unfavorable attitude

16-30 : Favorable attitude

VIDEO ASSISTED TEACHING

Video assisted teaching regarding vector borne diseases among farmers based on review of literature and expert's opinion video assisted teaching was prepared in Malayalam and agreed opinion was obtained from the experts regarding vector borne diseases. Following structural outline of the video teaching.

- Introduction of vector borne diseases.
- Definition of vector borne diseases.
- Risk factors of vector borne diseases.
- Types of vector borne diseases.

- Mosquito control measures.
- Preventive measures of vector borne diseases.
- Role of community health nurse to control vector borne diseases.

CONTENT VALIDITY OF THE TOOL

The validity refers to the degree to which an instrument measures what it supposed to measure. The prepared questionnaire along with the statement of problem, objectives, tool, video and research content was submitted to 7 experts. Experts are include 2 Medical officers in CHC, 5 experts from field of nursing. Face validity and content validity of the tool was obtained. Based on the valuable suggestions of experts, necessary modifications were done. The final draft was submitted to experts after corrections and 100% agreement and acceptance for video content and tool were obtained.

RELIABILITY OF THE TOOL

Reliability of the research instrument is defined as the extent to which the instrument yield the same result on repeated measures. It is concerned with the consistency, accuracy, precision, stability, equivalence and homogeneity. To establish reliability the tool was administered to ten farmers who met the inclusion criteria. Karl Pearson's correlation coefficient formula was used to calculate the reliability of present tool. The reliability quotient of the tool was $r=0.76$ and $r=0.74$ for knowledge questionnaire and attitude scale respectively, which indicates the tool was reliable.

DATA AND SOURCES OF DATA

Data collection is the systematic gathering of information relevant to the research purpose or hypothesis of a study. After the approval of ethical committee, permission from the Secretary of Enadimangalam Gramapanchayath was obtained. The purpose of the study was explained and verbal consent was obtained from farmers to conduct the study. The study was conducted among farmers in rural areas of Kottarakkara. Data collection period was from

01.07.2021 to 10.07.2021. Sixty farmers who satisfying the inclusion and exclusion criteria were selected by using purposive sampling technique. The samples were divided into three groups. Each group had 20 samples.

On the 1st day (01.07.2021), the investigator met each sample individually, established rapport with them and collect demographic data. And the pretest was done to assess the knowledge and attitude regarding vector borne diseases among farmers were assessed by self report interview method with structured knowledge questionnaire and attitude scale. Followed by the pretest, video teaching was administered and doubts were clarified. The duration of session was 30 minutes and the posttest was administered on the 8th day (08.07.2021) to the same group with the same tool.

THEORETICAL FRAME WORK

Conceptual framework is a theoretical approach to the study of problems that are scientifically based, which emphasizes the selection, arrangement and clarification of its concepts. A conceptual framework states functional relationship between events and is limited to statistical relationships. The purpose of conceptual framework is to organize concept that represent essential knowledge that might be used by many disciplines.

In this study, Imogene King Goal Attainment Theory (2006) was used. The theory was based on assumption that humans are open system in interaction with their environment. The theory's focus on interpersonal system reflects King's belief that the practice of nursing is differentiated from that of the other health professions by what nurses do with and for individual. The major elements of the theory of goal attainment are seen in the interpersonal system in which two people, come together in a health care organization to help and be helped to maintain a state of health that permits functioning in roles. The concepts of the theory are perception, action, interaction and transaction. These concepts are interrelated to every situation. These terms are defined as concepts in conceptual framework.

RESEARCH METHODOLOGY

The selection of research approach is the basic procedure for the conduct of research enquiry. It helps the researcher to know what data to collect and how to analyze it. It also suggests the possible conclusions to be drawn from the

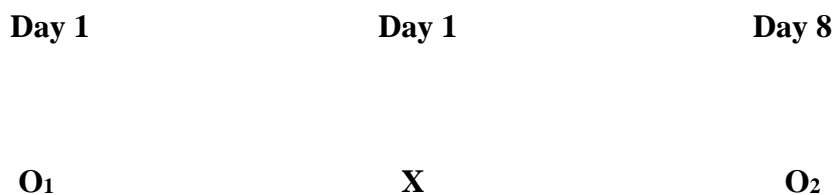
data. The research approach adopted for the present study was quantitative approach to evaluate the effectiveness of video assisted teaching on knowledge and attitude regarding vector borne diseases among farmers.

RESEARCH DESIGN

The research design refers to the researcher's overall plan or blue print obtaining answer to the questions, testing hypothesis, and how to handle some of the difficulties encountered during the research process. The research design spells out the strategies that the research adopts to develop information that is accurate, objective and interpretable.

The research design used for the present study was preexperimental research design (One group pretest posttest design). It includes manipulation, but no randomization and no control group.

The design is symbolically represented as,



Where,

O₁: Pretest knowledge and attitude regarding vector borne diseases among farmers.

X : Video assisted teaching on vector borne diseases among farmers.

O₂: Posttest knowledge and attitude regarding vector borne diseases among farmers.

VARIABLES

Variables are quantities, qualities, properties or characteristics of people, things or situation that change or vary. The main types of variables in this study were : independent variable, dependent variables and demographic variables.

Independent variable:

These are stimulus or activity that are manipulated or varied by the researcher to create the effect on dependent variable. In this study, independent variable was video assisted teaching regarding vector borne diseases.

Dependent variables:

These are the outcome or response due to the effect of independent variable. In this study, dependent variables were the knowledge and attitude regarding vector borne diseases among farmers.

Demographic variables:

This refers to the particular characteristics of the population. In this study, demographic variables of farmers includes age of the farmers, gender, religion, marital status, type of family, educational status, dietary pattern, family monthly income, history of any chronic disease, past history of any surgeries, previous knowledge regarding vector borne diseases and source of information.

SETTING OF THE STUDY

The setting is the physical, social and cultural site in which the researcher conducts the study. In this study, data collection was done from rural areas of Kottarakkara.

PILOT STUDY

Pilot study was conducted in Enadimangalam area from 10.06.2021 to 17.06.2021 with sample size of 10.

RESULTS

In the present study, among 60 farmers, 3.3 % (2) of them were belongs to age group of 21-30 years, 31.7% (19) of them belongs to age group of 31-40 years and 65% (39) of them were aged 41-50 years. Based on gender 86.7%

(52) farmers were male and 13.3% (8) of them were female. Regarding religion 78.3% (47) of them were Hindu, 5% (3) of them were Muslim and 16.7% (10) of them were Christian.

Regarding marital status, 95% (57) were married and 5% (3) were unmarried.

Regarding type of family among 60 farmers 35% (21) of them belongs to joint family and 65% (39) of them belongs to nuclear family. Based on educational status 31.7% (19) of them had only primary education, 68.3% (41) of them had secondary education, and none of them had graduation level education. While considering the dietary pattern of 60 farmers, 16.7% (10) were prefer vegetarian food and 83.3% (50) of them prefer non vegetarian food. Regarding the family monthly income of

< Rs.5000, 11.7% (7), 61.7% (37) farmers have the income of Rs.5001-Rs.10000, 26.7% (16) of them had income of Rs.10001-Rs.15000 and none of them had family monthly income of Rs.15001-Rs.20000.

Based on history of chronic diseases, 50% (30) of them had no history of chronic diseases and 50% (30) of them had history of chronic diseases. Regarding past history of any surgeries among 60 farmers, 15% (9) of them had undergone any surgery in the past and 85% (51) had not undergone any surgeries in the past. Based on previous information regarding vector borne among 60 farmers 30% (18) of them had previous knowledge and 70% (42) of them had no previous knowledge.

Among those who had previous information regarding vector borne diseases, 3.3% (2) of them got information from friends/relatives, 91.7% (13) of them got information from mass media, 5% (3) of them got information from health professionals and none of them got information from parents.

The first objective of the study was to assess the knowledge regarding vector borne diseases among farmers. It was analyzed by using frequency and percentage distribution. Result showed that in the pretest, 0% (0) of them had adequate knowledge, 63.3% (38) had moderate knowledge and 36.7% (22) had inadequate knowledge regarding vector borne diseases. Whereas in posttest, 58.3% (35) of them had adequate knowledge, 41.7% (25) had moderate knowledge and none of them had inadequate knowledge regarding vector borne diseases.

Regarding attitude towards vector borne diseases among farmers. It was analyzed by using frequency and percentage distribution. Result showed that in the pretest, 73.3% (44) of them had unfavourable attitude and 26.7%

(16) of them had favourable attitude towards vector borne diseases, whereas in posttest, 85% (51) of them had favourable attitude and 15% (9) of them had unfavourable attitude towards vector borne diseases.

The second objective of the study was to evaluate the effectiveness of video assisted teaching on knowledge regarding vector borne diseases among farmers. It was analyzed by using Mean, Mean difference, Standard deviation and Paired t' test. The mean posttest knowledge score ($M_2 \pm SD_2 = 19.98 \pm 2.777$) of farmers regarding vector borne disease was higher than the mean pretest knowledge score ($M_1 \pm SD_1 = 11.72 \pm 2.421$) with Mean difference MD=8.267 and 't' value (27.336), $p < 0.001$ was significant at $p < 0.05$. Hence null hypothesis (H_{01}) was rejected and research hypothesis (H_1) was accepted. It was inferred that video assisted teaching was effective in improving knowledge regarding vector borne diseases among farmers.

The mean posttest attitude score ($M_2 \pm SD_2 = 20.40 \pm 3.596$) towards vector borne diseases was higher than the mean pretest attitude score ($M_1 \pm SD_1 = 17.02 \pm 2.550$) among farmers with mean difference MD=2.467 and 't' value 6.896, $p < 0.001$ was significant at $p < 0.05$. Hence null hypothesis (H_{02}) was rejected and research hypothesis (H_2) was accepted. It was inferred that video assisted teaching was effective in changing the attitude towards vector borne diseases among farmers.

The third objective of the study was to find association between the knowledge regarding vector borne diseases and selected demographic variables among farmers were analyzed by using Chisquare test and Fisher's exact test. The findings revealed that there was no significant association between the knowledge regarding vector borne diseases and selected demographic variables among farmers such as age of the farmers $\chi^2 = 2.283$ ($p=0.319$), gender $\chi^2 = 2.038$ ($p= 0.129$), religion $\chi^2 = 0.355$ ($p= 0.838$), marital status $\chi^2 = 0.351$ ($p=0.554$), types of family $\chi^2 = 0.073$ ($p=0.787$), educational status $\chi^2 = 1.926$ ($p=0.165$), dietary pattern $\chi^2 = 1.920$ ($p=0.166$), income $\chi^2=2.313$ ($p=0.315$), history of any chronic diseases $\chi^2=1.067$ ($P= 0.302$) and past history of any surgeries $\chi^2=1.176$ ($P=0.278$), previous knowledge $\chi^2 = 7.937$ ($p=0.005$) at 0.05 level of significance. Therefore, research hypothesis (H_3) was rejected and null hypothesis (H_{03}) was accepted for these variables.

The fourth objective was to find association between the attitude towards vector borne diseases and selected demographic variables among farmers were analyzed by using Chisquare test and Fisher's exact test. The findings revealed that there was no significant association between the attitude towards vector borne diseases and selected demographic variables among farmers such as age of the farmers $\chi^2 = 0.433$ ($p=0.805$), gender $\chi^2 = 0.434$ ($p= 0.510$), religion $\chi^2 = 4.915$ ($p= 0.086$), marital status $\chi^2 = 0.285$ ($p=0.594$), types of family $\chi^2 = 0.212$ ($p=0.645$), educational status $\chi^2 = 1.018$ ($p=0.313$), dietary pattern $\chi^2 = 2.256$ ($p=0.133$), income $\chi^2 = 3.752$ ($p=0.153$), history of any chronic diseases, $\chi^2 = 1.799$ ($P= 0.438$) and past history of any surgeries, $\chi^2 = 0.601$ ($P= 0.638$), previous knowledge, $\chi^2 = 0.918$ ($p=0.338$) at 0.05 level of significance. Therefore, research hypothesis (H_4) was rejected and null hypothesis (H_{04}) was accepted and for these variables.

The essence of any research project is based on study findings, limitations, interpretation of research results and recommendations that incorporate the study implications. It also gives the meaning to the result obtained in the study⁴⁴. This chapter deals with discussion, summary, limitations, implications, conclusion and recommendations.

DISCUSSION

Discussion refers to the research findings support the study from previous literature. The study was intended to evaluate the effectiveness of video assisted teaching on knowledge regarding vector borne diseases among farmers. The study is discussed under following headings, according to the study objectives :-

SECTION I: DESCRIPTION OF SAMPLE CHARACTERISTICS OF FARMERS.

Data on demographic variables of farmers were analyzed by frequency and percentage distribution.

SECTION II: ANALYSIS OF KNOWLEDGE REGARDING VECTOR BORNE DISEASES AMONG FARMERS

Data on analysis of knowledge regarding vector borne diseases among farmers were analyzed by frequency and percentage distribution

SECTION III: ANALYSIS OF ATTITUDE TOWARDS VECTOR BORNE DISEASES AMONG FARMERS

Data on analysis of attitude towards vector borne diseases among farmers were analyzed by frequency and percentage distribution

SECTION IV: EFFECTIVENESS OF VIDEO ASSISTED TEACHING ON KNOWLEDGE REGARDING VECTOR BORNE DISEASES AMONG FARMERS

Data on effectiveness of video assisted teaching on knowledge regarding vector borne diseases among farmers were analyzed by Mean, Standard deviation and Paired ‘t’ test.

SECTION V: EFFECTIVENESS OF VIDEO ASSISTED TEACHING ON ATTITUDE TOWARDS VECTOR BORNE DISEASES AMONG FARMERS

Data on effectiveness of video assisted teaching on attitude towards vector borne diseases among farmers were analyzed by Mean, Standard deviation and Paired ‘t’ test

SECTION VI: ASSOCIATION BETWEEN THE KNOWLEDGE REGARDING VECTOR BORNE DISEASES AND SELECTED DEMOGRAPHIC VARIABLES AMONG FARMERS

Data on association between the knowledge regarding vector borne diseases and selected demographic variables among farmers were analyzed by Chisquare test and Fisher’s exact test

SECTION VII: ASSOCIATION BETWEEN THE ATTITUDE TOWARDS VECTOR BORNE DISEASES AND SELECTED DEMOGRAPHIC VARIABLES AMONG FARMERS

Data on association between the attitude towards vector borne diseases and selected demographic variables among farmers were analyzed by Chisquare test and Fisher’s exact test.

SECTION I: DESCRIPTION OF SAMPLE CHARACTERISTICS AMONG FARMERS.

In the present study, among 60 farmers, 3.3 % (2) of them were belongs to age group of 21-30 years, 31.7% (19) of them belongs to age group of 31-40 years and 65% (39) of them were aged 41-50 years. Based on gender 86.7%

(52) farmers were male and 13.3% (8) of them were female. Regarding religion 78.3% (47) of them were Hindu, 5% (3) of them were Muslim and 16.7% (10) of them were Christian.

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Based on history of chronic diseases, 50% (30) of them had no history of chronic diseases and 50% (30) of them had history of chronic diseases. Regarding past history of any surgeries among 60 farmers, 15% (9) of them had undergone any surgery in the past and 85% (51) had not undergone any surgeries in the past. Based on previous information regarding vector borne among 60 farmers 30% (18) of them had previous knowledge and 70% (42) of them had no previous knowledge regarding Vector borne diseases. Among those who had previous information regarding vector borne diseases, 3.3% (2) of them got information from friends/relatives, 91.7% (13) of them got information from mass media, 5% (3) of them got information from health professionals and none of them got information from parents.

The above findings were supported by the following study. A cross sectional study conducted to determine the factors predisposing to vector borne infectious disease, risk-perceptions, and personal protective behavior among U.S international travelers. Sample of 750 adults were selected using simple random sampling. Data were collected using standardized knowledge questionnaire by self report method. Results showed that the mean score of adults knowledge was 0-30 scores. Study participants' mean age was 36.1 years (SD = 13.77). The gender distribution was, female 68% (n = 710) and male = 32% (n = 333). Seventy-two percent (n = 754) reported their race as white, 13% (n = 133) as Black/African American, 7% (n = 77) as Asian, <1% as Native American (n = 08) and Native Hawaiian (n = 04), while 4% (n = 42) reported more than one race. Twenty eight percent (n = 297) of study

participants reportedly wore covering clothes to keep mosquitoes away. We found statistically significant differences in row percentages for awareness of Zika ($p < 0.002$) and Chikungunya ($p < 0.0001$), and wearing covering clothing to keep mosquitoes away. Study recommended that Individuals and groups charged with instructional design of health promotion messages for control and prevention of mosquito borne infectious diseases would find the information valuable, as they plan and develop content for mosquito-borne disease prevention and control interventions¹⁸.

SECTION II: ANALYSIS OF KNOWLEDGE REGARDING VECTOR BORNE DISEASES AMONG FARMERS

The present study revealed that among 60 farmers, in the pretest, 0% (0) of them had adequate knowledge, 63.3% (38) had moderate knowledge and 36.7% (22) had inadequate knowledge regarding vector borne diseases. Whereas in posttest, 58.3% (35) of them had adequate knowledge, 41.7% (25) had moderate knowledge and none of them had inadequate knowledge regarding vector borne diseases.

The above findings were supported by the following study. A cross sectional study to assess the knowledge related to VBDs in households with livestock and without livestock and explore the perceptions of the health care sector about VBDs and livestock keeping in Hanoi city of Vietnam. The quantitative analysis indicated that the participants possessed basic knowledge on VBDs with an average score of 18.3 out of 35, of which non-livestock-keeping households had a better knowledge than households keeping livestock ($p < 0.05$). The result revealed that farmers were likely to have better preventive knowledge as compared to office workers ($p < 0.05$).

Those who had better knowledge also had more adequate preventive practices against VBDs ($p < 0.001$). Spearman test indicated an overall positive correlation between knowledge and practice (Spearman test = 0.67, $p < 0.001$). The study concluded that livestock keeping, there was a strong positive correlation ($r = 0.73$, $p < 0.001$) between knowledge and practice of non-livestock households and positive correlation ($r = 0.58$, $p < 0.001$) between

knowledge and practice of livestock households. Study recommended that there was a gap in community knowledge about VBDs, where households with livestock had poorer knowledge than households without livestock³⁴.

SECTION III: ANALYSIS OF ATTITUDE TOWARDS VECTOR BORNE DISEASES AMONG FARMERS

The present study revealed that among 60 farmers in the pretest, 73.3% (44) of them had unfavourable attitude and 26.7% (16) of them had favourable attitude towards vector borne diseases, whereas in posttest, 85% (51) of them had favourable attitude and 15% (9) of them had unfavourable attitude towards vector borne diseases.

The above study were supported by a cross sectional study was conducted to assess the knowledge, attitudes, and practices (KAPs) of residents in western Jamaica regarding control of mosquito vectors and protection from mosquito bites. The sample size was 361. The sampling technique was simple random sampling. The result of the study showed that most participants (87%) scored low on knowledge and practice items (78%). Conversely, 78% scored high on attitude items. By multivariate logistic regression, housewives were 82% less likely than laborers to have high attitude scores; homeowners were 65% less likely than renters to have high attitude scores. The study concluded that poor knowledge of VBDs and poor prevention practices among participants. The study is recommended that with vector control and personal protection interventions transmission of the infections can be prevented¹⁹.

SECTION IV: EFFECTIVENESS OF VIDEO ASSISTED TEACHING ON KNOWLEDGE REGARDING VECTOR BORNE DISEASES AMONG FARMERS.

The present study showed that the mean posttest knowledge score ($M_2 \pm SD_2 = 19.98 \pm 2.777$) of farmers regarding vector borne disease was higher than the mean pretest knowledge score ($M_1 \pm SD_1 = 11.72 \pm 2.421$) with Mean difference MD=8.267 and 't' value (27.336), $p < 0.001$ was significant at $p < 0.05$. Hence null hypothesis (H_{01}) was rejected and research hypothesis (H_1) was accepted. It was inferred that video assisted teaching was effective in improving knowledge regarding vector borne diseases among farmers.

The above findings were supported by the following study. A cross-sectional study was conducted to determine the effectiveness of school-based video-assisted health education on knowledge regarding vector-borne diseases in Southern India. The sample of ninety-five children studying in 6th and 7th standard of two higher primary schools located in a rural area of southern India have participated in the study. The data were analyzed by inferential statistics. The knowledge level of the children was assessed using a structured knowledge questionnaire before and after the video-assisted health education program. Children were educated using Power Points and videos in three sessions on various aspects of vector borne diseases. The results showed that the mean score was 23.58 ± 7.08 in the pre-test and the post-test mean score was 53.01 ± 3.90 . The minimum score was 13 in the pre-test and in the post-test it was 44 with a maximum possible score of 60. Intervention was effective and led to 49.05% of gain in knowledge of children from pre-test to the post-test and the difference in the mean value was statistically significant ($t = 36.58$, $p < 0.001$). The study concluded that even though children had the knowledge on MBD, it was not adequate and video-assisted health education was useful to improve their knowledge. The recommendation of the study was to more consistent efforts are needed to educate the children on different health issues using various sense stimulating teaching aids to help them develop into healthy future generation³¹.

SECTION V: EFFECTIVENESS OF VIDEO ASSISTED TEACHING ON ATTITUDE REGARDING VECTOR BORNE DISEASES AMONG FARMERS.

The result of the study showed that mean posttest attitude score ($M_2 \pm SD_2 = 20.40 \pm 3.596$) among farmers towards vector borne diseases was higher than the mean pretest attitude score ($M_1 \pm SD_1 = 17.02 \pm 2.550$) with mean difference MD=2.467 and 't' value 6.896, $p < 0.001$ was significant at $p < 0.05$. Hence null hypothesis (H_{02}) was

rejected and research hypothesis (H_2) was accepted. It was inferred that video assisted teaching was effective in changing the attitude towards vector borne diseases among farmers.

The above findings were supported by a cross-sectional study was conducted in Huda trust hospital, Kerala to assess the effectiveness of computer assisted teaching programme on knowledge and attitude regarding management of dengue hemorrhagic fever among staff nurses. The total sample of 60 staff nurses were selected using simple random sampling technique. Data were collected by using structured questionnaires and attitude scale. Comparison of pre and post- test level of knowledge and attitude level was analyzed by using paired 't' test. Calculated 't' value was 0.62 which was greater than table value. So it was significant at P.0.05% level. The result showed that mean post knowledge and attitude scores was higher than the pre-test knowledge and attitude regarding dengue hemorrhagic fever. The result indicates computer assisted teaching programme on management of dengue hemorrhagic fever was found to be significantly effective in improving knowledge and attitude among staff nurses. The study recommended that computer teaching programme on management of dengue hemorrhagic fever was effective in improving the knowledge and attitude³³.

SECTION VI: ASSOCIATION BETWEEN THE KNOWLEDGE REGARDING VECTOR BORNE DISEASE AND SELECTED DEMOGRAPHIC VARIABLES AMONG FARMERS.

The results showed that there was no significant association between the knowledge regarding vector borne diseases and selected demographic variables among farmers such as age of the farmers, gender, religion, marital status, type of family, educational status, dietary pattern, family monthly income, history of any chronic diseases, past history of any major surgeries, previous knowledge regarding vector borne diseases and source of information at 0.05 level of significance.

A cross-sectional study was conducted to assess the knowledge, attitude and practice of general public about vector borne diseases in Soudi Arabia. A sample 3388 participants were selected by random sampling method. Data were collected by online self reported questionnaire. The majority of the sample (57.73%) were between the ages of 18 and 39. Of the participants, 63.43% were married (63.43%) and 36.57% were unmarried. More than half of the sample (56.20%) had a college or university degree. Respondents were grouped according to monthly income,

with 24.97%) in the <Rs.3000 group, and 7.26% in the \geq Rs. 30,000 group. In terms of work status, 31.76% were unemployed, and 9.27% were retired. Vector borne diseases knowledge score increases with income. The lowest score was for respondents in the low-income category, < Rs.3000, and the highest score was for respondents with an income of Rs. 20,000 to <30,000. Regarding gender, the results indicate that, compared to women, men have lower knowledge ($\chi^2 = -0.018$; $p < 0.001$), lower positive attitudes ($\chi^2 = -0.018$; $p < 0.001$), and few good practices for vector borne diseases ($\chi^2 = -0.064$; $p < 0.001$). The study concluded that the results of this study suggest that more emphasis should be placed on less educated, lower income, and men. The study suggests that Saudi residents, especially women, have good knowledge, positive attitudes, and good practices toward vector borne diseases³⁹.

SECTION VII: ASSOCIATION BETWEEN THE ATTITUDE TOWARDS VECTOR BORNE DISEASES AND SELECTED DEMOGRAPHIC VARIABLES AMONG FARMERS.

The results showed that there was no significant association between the attitude towards vector borne diseases and selected demographic variables among farmers such as age of the farmers, gender, religion, marital status, type of family, educational status, dietary pattern, family monthly income, history of any chronic diseases, past history of any major surgeries, previous knowledge regarding vector borne diseases and source of information at 0.05 level of significance.

The above findings were supported by a cross-sectional study conducted to assess the knowledge, attitude and practice regarding vector borne diseases among farmers in Malaysia. A sample of 4850 was selected by convenience sampling method. Data were collected by online self report method using structured knowledge questionnaire and attitude scale. Data were analysed by frequency and percentage, Chisquare test, ANOVA, 't' test. Result showed that there was no significant association between attitude score and demographic variables such as occupation $p < 0.05$ level of significance. The study concluded that Malaysians have an acceptable level of knowledge on vector borne diseases and are generally positive in their outlook. The study recommended that health education programmes are essential for improving the knowledge and attitude of the farmers⁴⁰.

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