# EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME ON EMERGING AND RE-EMERGING INFECTIOUS DISEASES AMONG ADULTS IN SELECTED WARDS OF BHARANICKAVU PANCHAYATH, ALAPPUZHA, KERALA STATE, INDIA

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**ABSTRACT**

Infectious diseases are a significant public health problem globally. They have been leading causes of death and disability and it is a growing challenge to health security and human progress. Over the past 3½ decades at least 30 new infectious disease agents affecting humans have been emerged.1A quantitative study to assess the effectiveness of video assisted teaching programme on emerging and re-emerging infectious diseases among adults in selected wards of Bharanickavu Panchayath, Alappuzha. The objectives were, to assess the effectiveness on Video Assisted Teaching Programme on emerging and re- emerging infectious diseases by comparing the pre and post-test knowledge among adults and to find the association between pre-test knowledge on emerging and re- emerging infectious diseases with demographic variables including age, sex, educational status, marital status, occupation, type of family and income of family. A pre-experimental one group pre-test post-test design was used. 100 samples were selected by using non probability convenient sampling technique. The tool was self-structured knowledge questionnaire, which consisted of Demographic Performa, questionnaire to assess general information regarding Covid and Structured knowledge questionnaire on emerging and re-emerging infectious diseases. Video assisted teaching programme included valuable information regarding emerging and re-emerging infectious diseases like Covid, Nipah, Dengue and swine flu, were taught to the sample on the first day after pre-test. Post-test was conducted on seventh day of pre-test. The collected data were analysed using descriptive and inferential statistics. The result showed that mean pre-test and post-test score were 20.66 and 36.22 respectively. The calculated 't' value was 17.8 which was greater than the table value 2.58 at 0.05 level of significance. The study concluded there was significant difference between mean pre-test and post-test knowledge score regarding emerging and re-emerging infections. The findings revealed that video assisted teaching programme was effective in improving knowledge regarding these diseases.

**Key words:** Video assisted teaching programme, knowledge; emerging/reemerging infectious diseases; adults.

**INTRODUCTION**

Emerging infections can be defined as "Infections that have newly appeared in a population or have existed previously but are rapidly increasing in incidence or geographic range. Some of the important emerging viral infections in India which may have serious health and economic implications in the future are Nipah, SARS, Corona Virus, Hanta Virus etc.[2] The emergence of novel human pathogens and reemergence of several diseases is of particular concerns in the current decade. Re-emerging and resurging infections are those that existed in the past, but are now rapidly increasing in incidence or in geographical or in human host range. Example of reemerging diseases are Dengue, Malaria, Encephalitis etc[3]. The aim of this quantitative study was to assess the effectiveness of video assisted teaching programme on emerging and re-emerging infectious diseases among adults in selected wards of Bharanickavu Panchayath,

Alappuzha, Kerala state, India.

### Need and Significance of the Study

Globally it was estimated that approximately 335 emerging infectious diseases were originated between the years 1940 – 2019.9 It was believed that increased global travel was the reason for the recent renewal of many infectious diseases.[4] Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus and according to WHO, globally there have been 756 million confirmed cases of COVID-19 which includes 68 lakhs deaths.[5] Nipah virus is a bat-borne virus that causes Nipah virus infection in humans and other animals, a disease with a high mortality rate. According to WHO the case fatality rate globally is estimated at 40% to 75% in 2018. This rate can vary by outbreak depending on local capabilities for epidemiological surveillance and clinical management.[6] Dengue is a viral infection transmitted to humans through the bite of infected mosquitoes. The global incidence of dengue has grown dramatically with about half of the world's population now at risk and although an estimated 100-400 million infections occur each year, over 80% are generally mild and asymptomatic.[7] Swine flu is an acute respiratory disease, caused by a strain of the influenza type A virus known as H1N1, officially referred as novel H1N1/A.[8] The WHO reports explain that, the worldwide annual epidemics are estimated to result in about 3 to 5 million cases of severe illness, and about 29 lakh to 65 lakh respiratory deaths.[9]Kerala is a state that is present in the extreme southwestern part of the nation India. The emerging and re-emerging viral diseases that have been reported over the past five years in India include Nipah virus, Influenza, Hepatitis B, Respiratory syncytial virus, West Nile Virus, Japanese encephalitis virus, Kyanasur forest disease virus, coxsackievirus type B3, Chikungunya virus, Human Adenovirus, Measles virus, Hepatitis A virus and Dengue virus.[10] The Government of Kerala Official dashboard updated that there were 67 lakh confirmed cases of COVID-19, along with 68lakh recovered cases and 70 thousand death cases in Kerala around September 2022.[11] On 19 May 2018, a Nipah virus disease (NiV) outbreak was reported in Kozhikode district of Kerala. There have been 17 deaths and 18 confirmed cases as of June 2018 and in 2021, one death was reported in Kerala due to Nipah virus.[12]

### PURPOSE OF THE STUDY

The purpose of this study is to assess the effectiveness of Video Assisted Teaching Programme on emerging and re-emerging infectious diseases among adults in selected wards of Bharanickavu Panchayath, Alappuzha district.

### STATEMENT OF THE PROBLEM

"Effectiveness of video assisted teaching programme on emerging and reemerging infectious diseases among adults in selected wards of Bharanickavu panchayath, Alappuzha."

### Objectives of the Study

The objectives of the study were:
1. To assess the effectiveness on Video Assisted Teaching Programme on emerging and re-emerging infectious diseases by comparing the pre and post-test level of knowledge among adults.
2. Find the association between pre-test levels of knowledge on emerging and re- emerging infectious diseases with selected demographic variables.

### ASSUMPTION

Video assisted teaching may be effective in preventing and managing the emerging and re-emerging infectious diseases among adults.

### HYPOTHESIS

**H1**: There will be a significant difference between pretest and posttest knowledge regarding emerging and re-emerging infectious diseases among adults following the video assisted teaching programme.

**H2**: There will be significant association between pretest knowledge score of adults regarding emerging and re-emerging infectious diseases with selected demographic variables.

### CONCEPTUAL FRAMEWORK

Ludwig von Bertelanffy's System Model Theory

### RESEARCH METHODOLOGY

The research approach and design adopted for the study is quantitative research approach and pre-experimental One group pre-test post-test design. Population in this study consists of 100 adults of age 30 to 50 years selected from different wards of Bharanickavu panchayath, Alappuzha District who were selected using non-probability convenient sampling technique.

### Inclusion Criteria:

Middle aged adult persons:
- Who are willing to participate in the study.
- Males and females between age group of 30 -50 years

### criteria: -

- Adults who are not present at the time of data collection.
- Adults who had already attended classes on emerging and re-emerging Infectious diseases.

### DESCRIPTION OF THE TOOL

The final draft of the tool was prepared considering the suggestions ofvalidators. It comprises 2 sections:

**Section A:** Demographic variables.

**Section B:** General information
**Section C:** Structured knowledge questionnaire regarding emerging and re-emerging infectious diseases

## DATA COLLECTION PROCEDURE
### Phase-1
After getting approval from concerned authority for the study, socio-demographic data, questionnaire and lesson plan for video assisted teaching programme was designed and prepared.

### Phase II
100 samples was selected using convenient sampling technique as per the inclusion and exclusion criteria. Informed consent was taken from the samples. Confidentiality was maintained. The baseline data was been collected and the pre- test level of knowledge was assessed through structured knowledge questionnaire, based on emerging and re-emerging infectious diseases. Education programme was conducted on emerging and re-emerging infectious disease including Covid-19, Nipah, Dengue and Swine flu. The participants were actively involved in the educational programme. Discussions regarding emerging and re-emerging infectious diseases were done using video assisted teaching.

### Phase III
Post-test level of knowledge was assessed after 07 days using the same structured knowledge questionnaire regarding emerging and re-emerging infectious diseases.

**Section A: Distribution of the demographic variables of samples**

**Table 1: Distribution of subjects based on the selected demographic variables** N=100.

| Sl. No. | Variable | Frequency (n) | Percentage (%) |
|---|---|---|---|
| 1 | **Age** | | |
| | 35-40 | 41 | 41% |
| | 41-45 | 36 | 36% |
| | 46-50 | 23 | 23% |
| 2 | **Sex** | | |
| | Male | 52 | 52% |
| | Female | 48 | 48% |
| | Transgender | 0 | 0 |
| 3 | **Educational status** | | |
| | Illiterate | 6 | 6% |
| | Primary | 24 | 24% |
| | High school | 35 | 35% |
| | College | 35 | 35% |
| 4 | **Marital status** | | |
| | Married | 57 | 57% |
| | Unmarried | 33 | 33% |
| | Widowed | 10 | 10% |
| 5 | **Occupation** | | |
| | Daily wages | 25 | 25% |
| | Homemaker | 27 | 27% |
| | Govt sector | 16 | 16% |
| | Private sector | 32 | 32% |
| 6 | **Type of family** | | |
| | Nuclear | 74 | 74% |
| | Joint | 26 | 26% |
| 7 | **Income of family (Rupees per month)** | | |
| | <3000 | 5 | 5% |
| | 3001-5000 | 23 | 23% |
| | 5001-10,000 | 20 | 20% |
| | >10,001 | 52 | 52% |

**Section B: Distribution of subjects based on general information regarding Covid-19**

**Table 2: Distribution of subjects based on general information regarding Covid-19. N=100**

| Sl. No. | Variable | Frequency (n) | Percentage (%) |
|---|---|---|---|
| 1 | **Families affected by Covid-19** | | |
| | Yes | 82 | 82% |
| | No | 18 | 18% |
| 2 | **Number of infected individuals per family** | | |
| | One person | 42 | 42% |
| | Two people | 36 | 36% |
| | Three or more people | 4 | 4% |
| 3 | **Isolation as per Covid-19 protocol** | | |
| | Yes | 82 | 82% |
| | No | 18 | 18% |
| 4 | **Incidence of death in families due to Covid infection** | | |
| | Yes | 0 | 0 |
| | No | 100 | 100% |
| 5 | **Doses of Covid vaccine received in families** | | |
| | Only First dose | 20 | 20% |
| | Both first and second doses of vaccine | 76 | 76% |
| | None | 4 | 4% |
| 6 | **Number of member who received Covid vaccine** | | |
| | All members in the family | 56 | 56% |
| | Only some members | 40 | 40% |
| | None | 4 | 4% |

**Section C: Distribution of subjects based on knowledge score among adults regarding emerging and re-emerging infectious diseases.**

**Section D: Effectiveness of video assisted teaching programme regarding emerging and re-emerging infectious diseases among adults**

**Table 3: Distribution of pre-test and post-test knowledge score of subjects regarding emerging and re-emerging infectious diseases.**
**N=100**

| Level of knowledge | Pre-test | | Post-test | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| Below average | 56 | 56% | 0 | 0 |
| Average | 38 | 38% | 39 | 39% |
| Good | 6 | 6% | 61 | 61% |

**Table shows that in pre-test, 56% of sample had below average level of knowledge, 38% had average level of knowledge and 6% had good level of knowledge. Whereas in post-test, majority of sample 61(61%) had good level of knowledge and 39(39%) had average level of knowledge**

**Table 4: Comparison of pre- test and post- test scores of subjects regarding emerging and re-emerging infectious diseases before and after video assisted teaching programme. N=100.**

| Parameter | Mean | Median | S.D |
|---|---|---|---|
| Pre-test | 20.66 | 18 | 8.46 |
| Post-test | 36.32 | 39 | 8.49 |

**The data in table 4 depicts that the mean post-test knowledge score (36.32) is higher than mean pre-test knowledge score (20.66). The median value of post-test score (39) is higher than median value of pre-test score (18). This signifies the effectiveness of video assisted teaching programme.**

**Table 5: Mean, mean difference, standard deviation and t value of pre-test and post-test knowledge score N=100**

| Parameter | Mean | Standard deviation | Mean difference | t value | Levelof significance |
|---|---|---|---|---|---|
| Pretest | 20.66 | 8.46 | | | |
| Post test | 36.32 | 8.49 | 14.94 | 17.8 | **\* Significant** |

**Table value t 99 = 2.58 * P<0.05 Significance**
**S - Significant at 0.05 level of significance**

**Graphical representation of subjects based on pre-test and post-test knowledge score regarding covid-19 N=100**
**Figure 6: Distribution based on pre-test and post-test knowledge score regarding Covid-19 before and after video assisted teaching programme.**
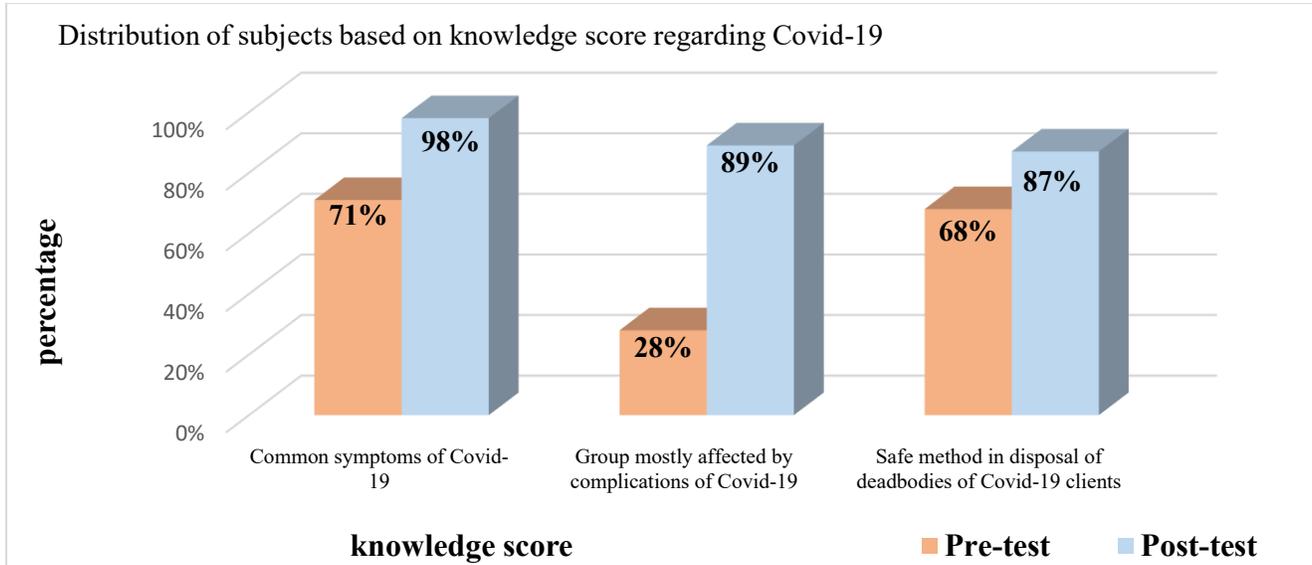


Distribution of subjects based on knowledge score regarding Covid-19

**Figure 7: Distribution based on pre-test and post-test knowledge score regarding Nipah virus infection before and after video assisted teaching programme.**
**Graphical representation of subjects based on pre-test and post-test knowledge score regarding Nipah infection**
**N=100.**



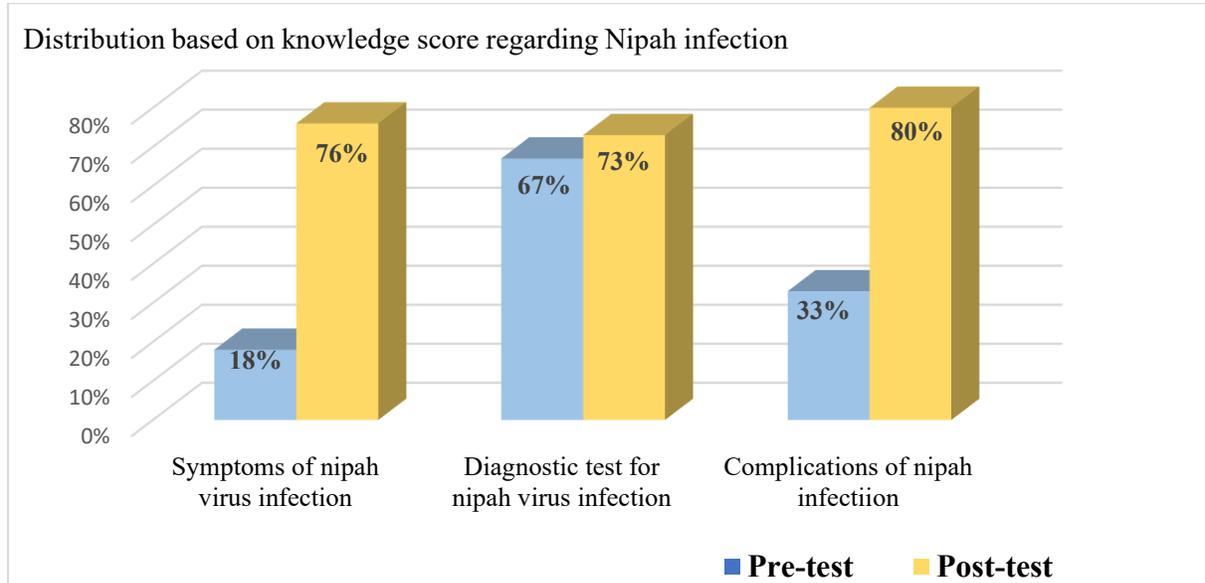Distribution based on knowledge score regarding Nipah infection

**Figure 8: Distribution based on pre-test and post-test knowledge score regarding swine flu (H1N1) before and after video assisted teaching programme.**
**Graphical representation of subjects based on pre-test and post-test knowledge score regarding swine flu N=100.**
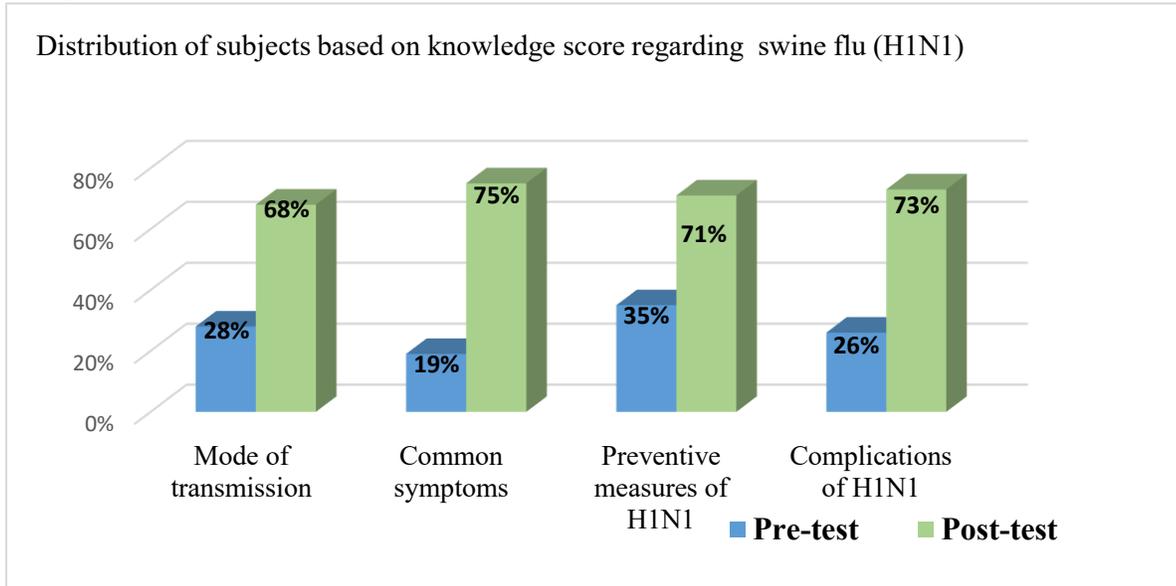


**Figure 9: Distribution based on pre-test and post-test knowledge score regarding dengue before and after video assisted teaching programme.**
**Graphical representation of subjects based on pre-test and post-test knowledge score regarding dengue N=100**
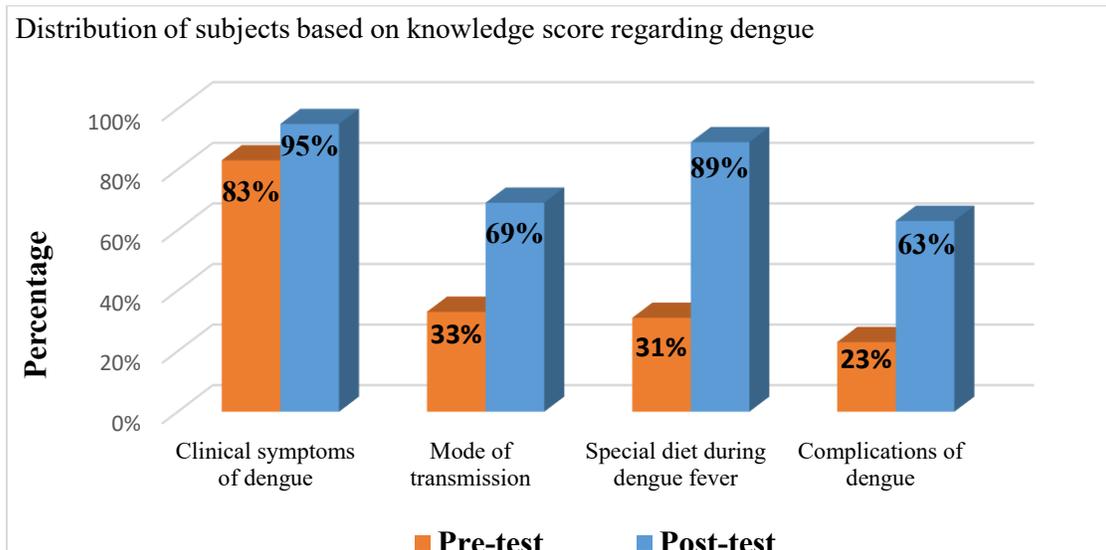


Table 5 shows that, the mean pre-test knowledge score was 20.66 with a standard deviation of 8.46 and mean post-test knowledge score was 36.32 with a standard deviation of 8.49. The calculated 't' value (17.8) was greater than table 't' value (2.58) value (t 99 = 2.58) with the degree of freedom of 99 p< 0.05 level of significance. Hence the research hypothesis H 1 – there will be significant difference between mean pre-test and post-test knowledge scores regarding emerging and re-emerging

infectious diseases among adults in selected wards was accepted.

**Section E: Association of pretest knowledge score of adults regarding emerging and re-emerging infectious diseases with selected demographic variables**

This section reveals that the chi-square test was used to determine the association between the pretest knowledge score and the selected demographic variables.

There is association of pre-test score with selected demographic variables age, educational status, occupation and type of family. Noother significant associations found. In short, research hypothesis $H_2$ was partially accepted.

## DISCUSSION

The findings of the present study were compared with the objectives of the study and findings of other studies are reviewed. The first objective wasto assess the effectiveness on video assisted teaching programme on emerging and re-emerging infectious diseases by comparing the pre-test and post-test level of knowledge among adults. The major findings of the study was in pretest, the adults showed average level of knowledge 46% and 55% had good level of knowledge. Whereas in post-test after the video assisted teaching programme out of 100 samples selected for the study 19% had average level of knowledge and 81% had good levels of knowledge. In pre-test 36% of subjects had knowledge about infectious disease whereas in post-test, the knowledge level improved and it became 84%. In pretest, 85% of the subjects knew about the agents which cause infectious diseases, where in post-test, the knowledge improved to 93%. In pre-test, only 24% of the subjects were having knowledge regarding mode of transmission of infectious disease, but after the video assisted teaching programme, the post-test score was increased to 96%. In pre-test, only 32% of subjects were aware about emerging infectious diseases, whereas in post-test majority (87%) had adequate knowledge. In pre-test, only 38% of subjects were aware about re-emerging infectious diseases, while in post-test, majority (89%) had adequate knowledge. The knowledge score in pre-test regarding types of emerging infectious diseases was 50%, and has improved to vast majority (90%) in the post-test. The knowledge score in pre-test regarding types of re- emerging infectious diseases was 27%, and has improved to vast majority (84%) in the post-test.

The second objective was to find the association between pre-test level of knowledge on emerging and re-emerging infectious diseases with selected demographic variables. Association of knowledge score with selected demographic variables such as age in years, sex, educational status, marital status, occupation, type of family years and income of family with knowledge on emerging and re-emerging infectious diseases were computed by using chi square test shows that there was no significant association between pre-test knowledge scores regarding emerging and re-emerging infectious diseases among adults with demographic variables such as age in years, sex, educational status, occupation and income of family.

The association of pre-test knowledge scores with selected demographic variables like age, sex, educational status, marital status, occupational status, type of family and income of family was computed using chi square test. The chi square values for age (14.23), sex (12.89), educational status (18.21), marital status (0.566), occupational status (2.431), type of family (0.014) and income of family (5.22). The calculated value was greater than chi square value for demographic variables 'marital status' (0.966) and 'type of family' (0.993).

Hence there was significant association between pretest knowledge score of adults regarding emerging and re-emerging infectious diseases with selected demographic variables such as age, sex, educational status, marital status, occupation, type of family and income of family with regard to 'marital status' and 'type of family'. No other significant association found.

The study finding was supported by mr. Amol Shelke (2020), where he assessed the level of knowledge regarding emerging and re-emerging infectious diseases among rural population (above 18 years of age) residing at Loin B.K village of Rahata tehsil, Maharashtra. 80 subjects were selected by using convenient sampling technique. The objectives of the study were to assess existing awareness regarding emerging and re-emerging diseases among rural population, to evaluate the effectiveness of video assisted teaching programme on awareness regarding emerging and re-emerging diseases among rural population and to correlate the post-test awareness on emerging and re-emerging diseases with their socio demographic characteristics. The pre-test was conducted using structured interview for 50-60 min to collect data. Awareness was assessed with dichotomous questionnaire followed by the video assisted teaching sessions. The effectiveness of video assisted teaching was assessed by conducting post-test on 7 days after the pretest. The data was analyzed with descriptive and inferential statistics [68].

The mean (SD) of all study participants was 27.38. The results of the study revealed that Video assisted teaching was effective in improving the awareness on emerging and re-emerging diseases score shows the improvement from average (38.14%) to good (78.22%) from pre-test to post -test. Paired "t" test was calculated to analyze the difference in pre and post awareness regarding emerging and reemerging diseases. There was a highly statistically significant difference found in the various aspects of emerging and reemerging diseases between the pre and post-test alongside a overall significant difference also was found. Hence the stated hypothesis ($H_1$) rejected as it was interpreted that there was highly significant difference exist between pre and post-test awareness score thus the difference observed were true difference not by chance.

## CONCLUSION

The present study was aimed to assess the effectiveness of video assisted teaching programme on emerging and re-emerging infectious diseases among adults in wards of Bharanickavu panchayath, Alappuzha. The results revealed that the mean pre-test knowledge score was 20.66 with a standard deviation of 8.46 and

mean post-test knowledge score was 36.32 with a standard deviation of 8.49. The calculated 't' value (17.8) was greater than table't' value (2.58) at 0.05 level of significance. Hence the research hypothesis H 1 – there will be significant difference between mean pre-test and post-test knowledge scores regarding emerging and re-emerging infectious diseases among adults in selected wards was accepted. This showed that Video assisted teaching programme was effective in improving knowledge regarding emerging and re-emerging infectious diseases among adults in selected wards of Bharanickavu panchayath, Alappuzha.

## NURSING IMPLICATIONS
### Nursing implications

The present study has various implications in the field of nursing practice, nursing education and nursing research. The dissemination of knowledge takes place when the research findings are made use of in the following fields.

### Implications for Nursing practice
- Nursing service should focus on preventive aspect than curative aspect.
- Community health nurse has to plan, implement and evaluate various teaching programmes regarding emerging and re-emerging infectious diseases
- The study findings may help the nursing personnel to understand the need for conducting educational programmes on emerging and re-emerging infectious diseases.

### Implications for Nursing education

Nursing curriculum is a pathway to update the changes in nursing education. In nursing education curriculum, we are emphasizing on preventive and promotive aspects of nursing care.
- Nurses have a vital role in educating public regarding emerging and re-emerging infectious diseases. So, the nurse educator can attend training programmes to educate the public regarding the cause, prevention and management of emerging and re-emerging infectious diseases.

- Nursing curriculum may incorporate topics related to emerging and re-emerging infectious diseases.
- Nursing education can prepare nurses to assess and identify the chances of getting emerging and re-emerging infectious diseases in adults and take necessary interventions.
- Conduct in-service education programmes to improve knowledge and skills of health professionals regarding emerging and re-emerging infectious diseases.
- Nursing students may be motivated and prepared to conduct health teaching programme to the public regarding emerging and re-emerging infectious diseases.

### Implications for nursing administration
- With advanced technology and ever-growing challenges for health care needs, the college and hospital administration have the responsibility to provide nurses, nurse educators and nursing students with continuing education on emerging and re-emerging infectious diseases.
- The study finding will help the administrator to arrange continuing education programme for nurses regarding identification and management of emerging and re-emerging infectious diseases.
- The findings of the study could be made use by administrator to formulate policies and make necessary changes in educative and health care delivery system.

### Implications for nursing research
- The present study findings can motivate the beginners to conduct similar study with different variables on large population.
- The study findings reveal the current level of knowledge of adults regarding emerging and re-emerging infectious diseases.
- There is a need of intensive and extensive research regarding emerging infectious diseases.

More research is needed for better outcome with regard to management of further upcoming emerging infectious diseases

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