



A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON LEVEL OF KNOWLEDGE ON NIPAH VIRUS INFECTION AMONG WOMEN AT SELECTED URBAN AREA, COIMBATORE.

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Abstract : **Introduction:** Nipah virus infection has been identified as an emerging public health disease in the recent era. As there is no standard treatment protocols and no vaccination contributes to high fatality rate. There is only symptomatic management and precautionary measures are only available. The objective of the study is to evaluate the effectiveness of structured teaching programme on Nipah virus Infection among women at a selected urban areathe level of knowledge on nipah virus infection among women.**Methodology:** Pre experimental one group pretest posttest design was adopted. 92 samples who fulfilled the inclusion criteria were selected for the study using Convenient sampling technique. Pretest was conducted by using structured questionnaire . Small group teaching was given regarding the prevention of Nipah virus infection to all subjects. Post test was done on the seventh day by using the same questionnaire.**Results:** The findings of the study showed that the calculated t value is 35.1434 which is greater than the table value 3.160 at $p < 0.05$ level of significance. Hence it was proved that the planned teaching programme was effective in improving the knowledge on Nipah virus Infection among women. Significant association was found between pretest knowledge score and type of family and people who have heard of Nipah virus infection. **Conclusion:** It is found that the planned teaching programme was effective in improving the knowledge on Nipah virus infection there by reducing fatality rate.

Index Terms: **Nipah virus Infection, knowledge, women, Planned teaching programme**

I. Introduction:

“An ounce of prevention is worth a pound of cure”

Viral diseases like Swine flu, Avian/bird flu, Severe acute respiratory syndrome (SARS), Middle East respiratory syndrome coronavirus (MERS-CoV), Lassa fever, Marburg virus disease, Ebola, Crimean-Congo haemorrhagic fever (CCHF), Rift Valley fever (RVF), Zika, Nipah and Henipaviral diseases pose considerable risk of an international public health emergency, when these spread rapidly (Rizzardini et al 2018).

Nipah viral disease is a zoonotic infection and an emerging disease caused by Nipah virus an RNA virus of the genus *Henipavirus*, family Paramyxoviridae, which is transmitted by specific types of fruit bats, mainly *Pteropus* spp. (Vandali and Biradar, 2018). It is a highly fatal virus posing potential threat to global health security.

1.2 NEED FOR THE STUDY:

Nipah virus is a type of zoonotic virus which is transmitted from animals to humans . The virus can also cause severe disease in animals such as pigs which in turn increases the economic losses for farmers. Although Nipah virus has caused only a few known outbreaks in Asia, it can cause infection to a wide range of animals and can lead to severe disease and death in people who are infected with the virus. **(World Health Organization 2018)**

Nipah virus spread directly, from human to human through close contact with people's secretions and excretions. In Siliguri, India in 2001 transmission of virus was also reported within a Health care setting, where 75% of cases occurred among health care workers or visitors. From 2001 to 2008 , nearly half of identified cases in Bangladesh were due to human to human transmission . **(Centre for Disease Prevention and Control 2019)**

Small scale survey was done in Bangladesh with the objective to determine the level of knowledge and awareness related to Nipah Virus infection and to assess the potential risk of Nipah Virus disease among the rural population of Bangladesh. Cross-sectional methodology was conducted with the participation of 200 respondents from different villages of Bangladesh. The data were collected through face-to-face interviews in January 2021 using structured questionnaire. The results showed that 58.5% respondent of the study unknown about the term Nipah virus. However, maximum people seem to be aware of the fact that a virus infected person should be isolated as they can spread the disease further. The awareness level of the people is classified as "very poor", "poor", "good" and "excellent" with a percentage of 20%, 23%, 25.5% and 31.5% respectively. Bionomial regression analysis showed that education and government campaign were variables associated with the awareness of Nipah virus disease. The study concluded that Education and government campaigns need to be stepped up to make rural people aware about this zoonotic disease(Shah Wajed ,Muhammad Mohsinul Hoque , Arnob Biswas , Sutapa Bhowmik, Popy Devnath 2021).

1.3 STATEMENT OF THE PROBLEM:

A study to evaluate the effectiveness of structured teaching programme on level of knowledge on Nipah virus infection among women at selected urban area, Coimbatore.

1.4 OBJECTIVES

- To assess the level of knowledge on Nipah virus infection among women at selected urban area.
- To evaluate the effectiveness of structured teaching programme on Nipah virus infection among women at selected urban area.
- To associate between the selected demographic variables and the pretest knowledge score.

II RESEARCH DESIGN:

Quantitative approach with pre experimental one group pretest and post test design was adopted for the study

Research design: Pre experimental one group pre test-post test design

$O_1 \longrightarrow X \longrightarrow O_2$

O_1 -Pre assessment of knowledge regarding Nipah virus infection among women.

X - Structured teaching program.

O_2 - Post assessment of knowledge regarding Nipah virus infection among women.

III Population and Sample:**3.1 Settings of the study:**

The study was conducted in the selected urban area, Gandhimanagar, in Coimbatore.

3.2 Study Population:

Target population: Based on the inclusion and exclusion criteria adult women between age group 22-59 years were included in the study.

3.3 Sampling Technique:

Those who met inclusion criteria were selected as samples by using **non probability convenient sampling technique.**

3.4 Sample size and its justification:

Sample size was calculated using precision formula.

Prevalence 38% in Indian population were infected with Nipah virus (**WHO 2018**)

$$\frac{Z^2 P(1-P)}{d^2}$$

Z- Confidence interval=1.96

P- Prevalence 38% = 0.38

d- desired precision = 0.09

$$\frac{1.96 \times 1.96 \times 0.38 \times (1 - 0.38)}{0.09 \times 0.09}$$

$$\frac{3.18 \times 0.2356}{0.0081}$$

n= 92

So sample size was 92.

3.4 Sampling Criteria:**Inclusion criteria:**

Women willing to participate in the study

Exclusion criteria:

Women who have difficulty to hear and see.

3.4 Tools of data collection:

The tool consists of 2 parts.

Section A: Demographic profile of the women which includes age, educational status, occupational status, family income, previous knowledge regarding Nipah virus infection

Section B: Questionnaire on Nipah virus infection

Structured questionnaire was used to assess the level of knowledge among women regarding Nipah virus infection. The questions were framed by the researcher. Each question carry 1 point, total 25 questions that's equal to 25 points.

Scoring Interpretation:

Score	Knowledge level	%
0-8	Inadequate knowledge	≤ 50 %
9-16	Moderate knowledge	51-75%
17-25	Adequate knowledge	≥75%

3.5 Techniques of data collection:

The data was collected from 28.12.2020 to 02.01.2021 by using structured questionnaire. The samples were selected based on the inclusion criteria. Pretest was conducted. Small group teaching was given regarding the Nipah virus infection. Post test was done on the 7th day of data collection by using the same questionnaire.

3.6 Data and Sources of Data

Participants who met the inclusion criteria were selected for the study.

3.7 Ethical Approval:

The ethical approval was obtained from the ethical committee of institution on 30.01.2020 Informed consent was obtained from individual study participants enrolled in the study. All information were kept confidential and was used only for present study.

IV. RESULTS AND DISCUSSION**RESULTS:****Organization of the data:**

Section A: Frequency and percentage distribution of demographic variables.

Section B: Frequency and percentage distribution of study participants according to pretest and post test level of knowledge.

Section C: Effectiveness of structured teaching programme on Nipah virus infection among women on knowledge using paired 't' test.

Section D: Association of selected demographic variables with pretest score of knowledge among women.

Table: 4.1 Frequency and percentage distribution of study participants according to demographic profile.

N=92

S. No	Demographic Characteristics	Frequency	Percentage (%)
1	Age		
	20-28years	27	29
	29-38years	25	27
	39-48years	24	26
	49-59years	16	17
2	Education		
	Primary school	19	21%
	High school	28	30%
	Higher secondary	17	18%
	Degree	28	30%
3	Religion		
	Hindu	67	73%
	Muslim	10	11%
	Christian	15	16%
	Others	-	0%
4	Occupation		
	Sedentary Worker	45	49%
	Moderate Worker	41	45%
	Heavy Worker	6	7%
5	Income		
	APL(<24000)	45	49%
	BPL(>24000)	47	51%
6	Family		
	Nuclear	56	61%
	Joint	36	39%
7	Family History of Nipah Infection		
	Child	-	-
	Spouse	-	-
	Parents	-	-
	Not Applicable	92	100%
9	Marital Status		
	Married	81	88%
	Unmarried	11	12%
10	History of Chronic Illness		

	Yes	-	-
	No	92	100%
11	Heard of Nipah Virus		
	Yes	56	61%
	No	36	39%

The above table 4.1 presents the demographic profile of the study participants. Among 92 women participants, 27(29%) members were in the age group between 20-28years, 25(27%) members were in the age group between 29-38 years, 24(26%) members were in the age group between 39-48 years, 16(17%) members were in the age group between 49-59 years.

With respect to education, 19(21%) have completed Primary education, 28(30%) have completed High School, 17(18%) have completed Higher Secondary, 28(30%) were Degree Holders. Considering the religion, 67(73%) members are Hindus, 10(11%) members were Muslims and 16% (15) members were Christians. Based on the occupation, 45(49%) members were sedentary workers, 41(45%) members were moderate workers, 6(7%) members were Heavy workers. With regard to income, 45(49%) members belong to below poverty line, 47 (51%) members to above poverty line. With respect to type of family, 56(61%) members live in nuclear family, 36 (39%) live in Joint family. 92 (100%) members and their family has no history of Nipah virus infection. With regard to marital status, 81(88%) members were married, 11 (12%) members were not married.

92 (100%) have no history of chronic illness. 56(61%) members have heard about Nipah virus infection. 36 (39%) members have not heard about Nipah virus infection.

SECTION-B

Table 4.2 Frequency and percentage distribution of study participants according to pretest and posttest level of knowledge. n=92

S.No	Knowledge	Pre test score		Post test score	
		Frequency	Percentage%	Frequency	Percentage%
1	Inadequate knowledge	37	40.21	0	0
2	Moderate knowledge	50	54.34	29	31.52
3	Adequate knowledge	5	5.43	63	68.4

Table 4.2 reveals that in pretest 38(41.3%) of women had inadequate knowledge 52(56.5%) had moderately adequate knowledge, 2(2.17%) had adequate knowledge where as in post test 29(31.52%) had moderately adequate knowledge 63(68.4%) had adequate knowledge on prevention of Nipah virus infection.

SECTION C:

Table 4.3 Effectiveness of structured teaching programme on Nipah virus infection among women on knowledge using paired 't' test.

n=92

S.No.	Test	Mean value	Standard deviation	Calculated "t" value	Table value
1	Pre test	19.20	4.40	35.4138*	3.160
2	Post test	18.60	3.02		

*p<0.05, S- Significant **NS- Not Significant

Table 4.3 shows, the calculated “t” value is 35.14 which is greater than the tabulated value 3.160 significant at $p < 0.05$ level. Therefore the research hypothesis (H_1) is accepted. Hence it is concluded that the structured teaching programme on prevention of Nipah virus infection is effective in improving the knowledge among women in urban area.

SECTION D

Table 4.4 Association of selected demographic variables with pre test score of knowledge among women.

S.No	Demographic Variables	Inadequate Knowledge		Moderate Knowledge		Adequate Knowledge		χ^2 Value
		f	%	f	%	f	%	
1.	Age Group							
	a. 20-28	10	10.86	15	16.30	2	2.17	2.85
	b. 29-38	10	10.86	14	15.21	1	1.08	d.f-6
	c. 39-48	8	8.69	15	16.30	1	1.08	$p < 0.05$
	d. 49-59	9	9.78	6	6.52	1	1.08	**NS
2.	Education							
	a. Primary school	6	6.52	13	14.13	2	2.17	6.14
	b. High school	14	15.21	13	14.13	0	0	d.f-6
	c. Higher Secondary	6	6.52	7	7.60	0	0	$p < 0.05$
	d. Degree	11	11.95	17	18.40	3	3.26	**NS
3.	Type of Family							
	a. Nuclear	18	19.56	32	34.78	2	2.17	2.6
	b. Joint	19	20.65	18	19.56	3	3.26	d.f-3
								$p < 0.05$
								*S
4.	Heard of Nipah virus							
	a. Yes	18	19.56	33	35.86	4	4.34	2.8
	b. No	19	20.65	17	18.47	1	1.08	d.f-3
								$p < 0.05$
								*S

Note: statistically significant- $p < 0.05$, **NS- Not Significant, *S- Significant

Table 4.4 interpret that significant association was found between selected demographic variables like type of family and women who have heard on Nipah virus infection and knowledge on pretest score at $p < 0.05$ level.

DISCUSSION:

Among 92 women participants, 27(29%) research participants were in the age group between 20-28 years. Majority of the participants 67(72.82%) were Hindu by religion. Regarding occupation, nearly half of the participants 45 (48.91%) were sedentary workers. Based on the income 47(51.08%) of the participants were above poverty line. Most of the participants 92(100%) have no family history of Nipah infection. Considering education 28(30.43%) of the participants have studied up to high school and degree. Most of the 56(60.86%) of the participants were living in nuclear family. Maximum of the participants 81(88.04%) were married. 56(60.86%) participants have already heard about Nipah virus. None of the participants 92(100%) have no history of chronic illness. In pretest 37(40.21%) women had inadequate knowledge, 50(54.34%) had moderately adequate knowledge, 5(5.43%) had adequate knowledge whereas in, post test 29(31.52%) had moderately adequate knowledge, 63(68.4%) had adequate knowledge on prevention of Nipah virus infection. The calculated ‘t’ value is 35.14 which is greater than the tabulated value 3.160 significant at $p < 0.05$ level. Hence it is concluded that the structured teaching programme on prevention of Nipah

virus infection is effective in improving the knowledge among women in urban area. There was a significant association found between selected demographic variable like type of family and people who have already heard about Nipah virus infection and pretest knowledge score at $p < 0.05$ level.

Conclusion:

It is found that the planned teaching program was effective in improving the knowledge on prevention of Nipah virus infection among women. The gained knowledge will aid in reducing the incidence of Nipah virus outbreak in future.

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