A study to assess the effect of health teaching on knowledge regarding nipah virus infection among adults in selected areas in pcmc.

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ABSTRACT

Introduction: In the 1990s a new genus, Henipavirus was identified in an outbreak in Australia and Malaysia. Fruit bats are their natural hosts. This Nipah virus has been classified under the family Paramyxoviridae. This is prevalent in Australia and in Malaysia, Indonesia, Philippines and the Pacific Islands. Its natural host is fruit bats in which this causes silent infection. Symptomatic infection occurs in horses, pigs and many other domesticated wild animals. Human infection is usually subclinical, but may be flu like fever which may lead to fatal encephalitis, sometimes as outbreaks. The disease was recorded in the form of a major outbreak in India in 2001 and then a small incidence in 2007, both the outbreaks in West Bengal only in humans without any involvement of pigs6. There were series of human Nipah incidences in Bangladesh from 2001 till 2013 almost every year with mortality exceeding 70 %. The disease transmission from pigs acting as an intermediate host during Malaysian and Singapore outbreaks has changed in NIV outbreaks in India and Bangladesh, transmitting the disease directly from bats to human followed by human to human.**The present study title:** A study to assess the effect of health teaching on knowledge regarding nipah virusinfection among adults in selected areas**. Objectives:** To identify knowledge of adults regarding Nipah virus infection, to determine effect of health teaching on knowledge regarding Nipah virus infection ,to find out association of knowledge regarding Nipah virus infection with selected demographic variable. **Material and Methods**: In present study, researcher adopted One Group Pre-test Post-test Pre-experimental Design. It was carried out on 60samples with adults age group 18-60 years. Non Probability Convenience Sampling Method was used. Health teaching and structured knowledge questionnaire were prepared to determine the effect of health teaching on knowledge regarding Nipah virus infection. Ethical clearance was taken from Institutional ethics committee. Data analysis was done mainly using descriptive statistics test, Fisher's exact test for association, Paired T test for effect of health teaching on knowledge regarding NIPAH virus infection. **Result**: level knowledge regarding NIPAH virus infection among adults in pre-test, 85% of the adults had poor knowledge score i.e. 0-5, 15% of them had average knowledge score i.e. 6-10 regarding NIPAH virus infection and the effect of health teaching on knowledge regarding NIPAH virus infection, in pre-test, 85% of the adults had poor knowledge (score 0-5), 15% of them had average knowledge score (6-10) regarding NIPAH virus infection. **Conclusion:** From the above findings, the researcher concluded that After administration of the health teaching, knowledge of majority of adults considerably increased to a higher score in post-test, whereas in pre-test scores remained approximately low. **Recommendation:** It is suggested that the study may be replicated using by conducted to evaluate the effectiveness of booklet related to NIPAH virus infection.

Keywords: (Effect, Health Teaching, Knowledge, Nipah virus infection, Adult)

INTRODUCTION

Nipah virus infection (NiV) is a viral infection caused by the Nipah virus. Symptoms from infection vary from none to fever, cough, headache, shortness of breath, and confusion. This may worsen into a coma over a day or two. Complications can include inflammation of the brain and seizures following recovery3. Diagnosis is based on symptoms and confirmed by laboratory testing. Management involves supportive care. As of 2018 there is no vaccine or specific treatment. Prevention is by avoiding exposure to bats and sick pigs and not drinking raw date palm sap.

As of May 2018 about 700 human cases of Nipah virus are estimated to have occurred and 50 to 75 per cent of those who were infected died. In May 2018, an outbreak of the disease resulted in at least 17 deaths in the Indian state of Kerala. The disease was first identified in 1998 during an outbreak in Malaysia while the virus was isolated in 1999. It is named after a village in Malaysia, Sungai Nipah. Pigs may also be infected and millions were killed in 1999 to stop the spread of disease Nipah virus is named after Sungai Nipah Village in Perak, Malaysia where the virus was discovered. Nipah virus encephalitis outbreak was first reported in September 1998 and documented in 1999. The disease was recorded in the form of a major outbreak in India in 2001 and then a small incidence in 2007, both the outbreaks in West Bengal only in humans without any involvement of pigs. There were series of human Nipah incidences in Bangladesh from 2001 till 2013 almost every year with mortality exceeding 70 %. The

disease transmission from pigs acting as an intermediate host during Malaysian and Singapore outbreaks has changed in NIV outbreaks in India and Bangladesh, transmitting the disease directly from bats to human followed by human to human.

NEED FOR THE STUDY

Nipah virus infection is known to cause late-onset and relapsed encephalitis, in addition to an acute encephalitic illness. This is a report of a 35 years old woman, who had exposure to the Nipah virus infection during the 1999 Malaysian outbreak, was positive for Nipah IgG by immunofluorescence, and had multiple small hyper intense lesions in brain MRI typically seen in acute Nipah encephalitis patients, indicating asymptomatic Nipah virus infection. She subsequently developed acute encephalitis after 11 years, manifesting as diplopia, internuclear opthalmoplegia and epileptic seizures with pleocytosis in cerebrospinal fluid examination. She had another episode of relapsed encephalitis a year later, with seizures, memory impairment, chorea and new lesions in MRI brain. This patient is unusual in the long incubation of 11 years before manifesting with late-onset Nipah encephalitis. Over 1000 people have been kept under quarantine, public services severely affected, schools closed and examination postponed due to the Nipah virus scare that has rocked Kerala and the rest of the country since May several under observation. A senior official from the directorate of health services said around 2000 people who interacted with Nipah-infected have been kept under observation and two persons who tested positive for the virus are stable and undergoing treatment at the Kozhikode Medical College Hospital.

OBJECTIVES OF THIS STUDY

To identify knowledge of adults regarding Nipah virus infection.
To determine effect of health teaching on knowledge regarding Nipah virus infection.
To find out association of knowledge regarding Nipah virus infection with selected demographic variable

REVIEW OF LITERATURE

Many studies have been carried out on nipah virus infection. Review of the relevant studies was carried out from the textbooks, journals of preventive social medicine.

This study was conducted by Rahaman et al. in 2010, demonstrated that the putative reservoir for the 1998 NiV outbreak occurred in Malaysia was Pteropus vampyrus (P. vampyrus) bat. The virus isolated in bats resulted monophyletic with previous NiV and the phylogenetic analysis enforced the hypothesis that similar strains were co-circulating in sympatric reservoir species.

Chong et al. 2009, in this study the researcher was discussed the relationship between Henipaviruses and fruit bats. Epidemiological studies have shown that the virus could be transmitted from bat to human and from human to human. Wildlife studies have also shown that the virus was widely distributed in at least 10 genera and 23 species of bats in a large part of Asia and Africa. As bats are long distant flying, gregarious animals living in large colonies which could exchange novel viruses from one species to another, it is not unexpected that the seroprevalence of Henipavirus among bat colonies are relatively high. He additionally commented that because of the widespread distribution of both the Henipavirus and its hosts, the virus will remain a vital reason behind zoonotic disease.

Silvia Angeletti et. al. 2016, A study was done by using Phylogenetic and evolutionary analyses to help in understanding the epidemiology and the temporal origin of this virus. The Henipavirus genus of the family Paramyxoviridae, characterized by high pathogenicity and endemic in South Asia. This can be classified as a Biosafety Level-4 (BSL-4) agent. The case-fatality varies from 40%-70% counting on the severity of the disease and on the supply of adequate aid facilities. At this time no antiviral medications are available for NiV disease and therefore the treatment is simply supportive. Because of the lack of effective vaccines or therapies and the fact that NiV can infects animals such as pigs, NiV infection can be considered an emerging disease and a public health issue.

Christopher C. Broder et. al. 2013, A study was conducted on animals in recent experimental findings which have demonstrated that an individual's monoclonal antibody targeting the viral G glycoprotein is a good post-exposure treatment against Hendra and Nipah virus infection. Nipah virus first appeared in Malaysia and subsequent outbreaks have occurred in Bangladesh and India. In total, there have been an estimated 582 human cases of Nipah virus and of these, 54% were fatal. Their broad species tropism and ability to cause fatal respiratory and/or neurologic disease in humans and animals make them important Trans boundary biological threats. In addition, a subunit vaccine supported the G glycoprotein of Hendra virus affords protection against Hendra and Nipah virus challenge. The vaccine has been developed to be used in horses in Australia and it's the 1st vaccine against a biosafety Level-4 (BSL-4) agent to be authorized and commercially deployed. Together, these advances supply viable approaches to deal with Hendra and Nipah virus infection of livestock and people.

Material and method:

Researcher adopted One Group Pre-test Post-test Pre-experimental Design. It was carried out on 60samples with adults age group 18-60 years. Non Probability Convenience Sampling Method was used. Health teaching and structured knowledge questionnaire were prepared to determine the effect of health teaching on knowledge regarding Nipah virus infection. Ethical clearance was taken from Institutional ethics committee. Data analysis was done mainly using descriptive statistics test, Fisher's exact test for association, Paired T test for effect of health teaching on knowledge regarding NIPAH virus infection.

Description of Tool:

SECTION I- Demographic data such as age, educational qualification, occupation, marital status, types of family,
Scoring was grade as
0-5 Poor
6-10 Average
11-15 Good
16-20 Very good

SECTION II- Structured Knowledge Questionnaires which consists of questions for assessing the knowledge.

Plan for Data Analysis

For the analysis of demographic data frequencies and Percentage was calculated.

The significance was calculated by using mean, Standard deviation and calculated 't' value, And association was done by Fisher's Exact test with selected demographic variable.

RESULT AND DISCUSSION

Analysis and interpretation of the data are based on data collected from 60 adults.

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Section I
Description of samples (adults) based on their personal characteristics
Table 1: Description of samples (adults) based on their personal characteristics in terms of frequency and percentages n=60

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Sr. No.	Demographic variable	Frequency (f)	Percentage (%)
1.	**Age**		
	18- 29 years	16	26.7
	30- 39 years	15	25.0
	40-49 years	16	26.7
	50-60 years	13	21.6
2.	**Educational qualification**		
	Diploma	13	21.7
	Primary	22	36.7
	Secondary	17	28.3
	Graduate or above	8	13.3

Sr. No.	Demographic variable	Frequency (f)	Percentage (%)
3.	**Occupation**		
	Daily wages	20	33.3
	Government Employee	15	25.0
	Private Employee	8	13.4
	Business	17	28.3
4.	**Marital status**		
	Married	40	66.7
	Single	15	25.0
	Widow	4	6.7
	Divorced	1	1.6
5.	**Type of family**		
	Nuclear	22	36.7
	Joint	23	38.3
	Extended family	15	25.0
6.	**Do you know about NIPAH virus**		
	No	46	76.7
	Yes	14	23.3
	If yes, then what is the source of information		
	Television	4	6.7
	Newspaper/ Magazine	6	10.0
	Friends/ Relatives	1	1.7
	Other	3	5.0

Majority of) 26.7% of the adults had age 18-29 years 26.7% of them had age 40-49 years,) 36.7% of them had primary education, 33.3% of them had daily wages, 66.7% of them were married, 38.3% of them had joint family, 23.3% of them knew about NIPAH virus

Section II

Analysis of data related to knowledge score of adults regarding NIPAH virus infection

Table 2: Knowledge of adults regarding NIPAH virus infection

n=60

Knowledge	Pretest	
	Frequency (f)	Percentage (%)
Poor (Score 0-5)	51	85.0
Average (Score 6-10)	9	15.0
Good (Score 11-15)	0	0.0
Very good (Score 16-20)	0	0.0

Table no. 2 shows that, in pre-test, (51) 85% of the adults had poor knowledge (score 0-5), (9) 15% of them had average knowledge score (6-10) regarding NIPAH virus infection.

Section III

Analysis of data related to the effect of health teaching on knowledge regarding NIPAH virus infection

Table 3: Effect of health teaching on knowledge regarding NIPAH virus infection

n=60

Knowledge	Pretest		Posttest	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor (Score 0-5)	51	85.0	0	0.0
Average (Score 6-10)	9	15.0	0	0.0
Good (Score 11-15)	0	0.0	0	0.0
Very good (Score 16-20)	0	0.0	60	100.0

Table no. 3, shows that in pre-test, (51) 85% of the adults had poor knowledge (score 0- 5), (9) 15% of them had average knowledge score (6-10) regarding NIPAH virus infection. In post-test, all of the adults had very good knowledge score (16-20) regarding NIPAH virus infection. This indicates that health teaching remarkably improved the knowledge of the adults regarding NIPAH virus infection.

Table 4:

Paired t-test for the effect of health teaching on knowledge regarding NIPAH virus infection n=60

	Mean	S.D.	't'	df	p-value
Pre-test	3.3	2.4	53.3	59	0.000
Post-test	18.8	1.1			

Table no. 3 shows that, Researcher applied paired t-test for effectiveness of health teaching on knowledge regarding NIPAH virus infection. Average knowledge score in pretest was 3.3 which increased to 18.8 in post-test. t-value of this test was 53.3 with 59 degrees of freedom. Corresponding p-value was 0.000 which is small (less than 0.05), health teaching was found to be significantly effective in improving knowledge of adults

Table 5

Fisher's exact test for association of knowledge among adults regarding NIPAH virus infection with selected demographic variable   n=60

Sr. No.	Demographic variable		Average	Poor	p-value
1.	Age	18- 29 years	2	14	0.595
		30- 39 years	1	14	
		40-49 years	4	12	
		50-60 years	2	11	
2.	Educational qualification	Diploma	0	13	**0.025**
		Primary	3	19	
		Secondary	2	15	
		Graduate or above	4	4	

n=60

Sr. No.	Demographic variable		Average	Poor	p- value
3.	Occupation	Daily wages	0	20	**0.001**
		Government Employee	7	8	
		Private Employee	1	7	
		Business	1	16	
4.	Marital status	Married Single	5	35	0.640
		Widow	3	12	
		Divorced	1	3	
			0	1	
5.	Type of family	Nuclear	3	19	**0.075**
		Joint	6	17	
		Extended family	0	15	
6.	Do you know about NIPAH virus	No	1	45	0.000
		Yes	8	6	

Table shows that since p-values corresponding to educational qualification, occupation and previous knowledge about NIPAH virus are small (less than 0.05), the demographic variables educational qualification, occupation and previous knowledge about NIPAH virus were found to have significant association with the knowledge of the adults regarding NIPAH virus infection.

Hence the p-value is less than 0.05 shows that health teaching on knowledge regarding Nipah virus infection among adults was found to be very effective.

DISCUSSION

The present study was undertaken A study to assess the effect of health teaching on knowledge regarding nipahvirus infection among adults.

Aayoushma Shrestha (2018) conducted a similar study on effects of educational intervention regarding Nipah virus infection among bachelor level nursing students, from Om Health Campus, Kathmandu. The study was adopted Pre-experimental one group

pre-test post-test design and conducted among 54 nursing student who fulfilled the inclusion criteria. Samples were selected through non-probability purposive sampling technique. Data were obtained through Self-administered questionnaire consisting demographic characteristics and knowledge regarding NiV infection was used. Results shows that the mean of pre-test knowledge was 7.40 whereas, the mean of post-test was 13.72 with a difference of 6.32. The paired t- value was 8.13 (p=0.00) showing the significant increase in the knowledge level regarding NiV infection after an educational intervention. Results of this study indicated most of the respondents had inadequate knowledge before educational intervention and all the respondents had adequate knowledge after educational intervention.

CONCLUSION

The conclusion drawn from the findings of the study are as follows: The 't' test done to find the effect of health teaching on knowledge regarding NIPAH virus infection in selected area of PCMC, related to NIPAH virus infection revealed that there is highly significant gain in knowledge of adults in the post-test who had been supplemented with the health teaching related to NIPAH virus infection.

Health education regarding NIPAH virus infection among adults has shown a significant effect in improving their knowledge.

IMPLICATIONS

The finding of this study is implicated in following headings-

Nursing education- Now a days much importance is given to awareness and promotion of health than the curative aspects. As the needs of society are continuously changing newer components must be incorporated in the nursing curriculum. Nursing education must emphasize on preventive and rehabilitative aspects. The nursing teachers can use the result of the study as an informative illustration for the students. Nursing education should help in inculcating values and a sense of responsibility in the students to educate the parents of children with such disorders and to foster the practice of health education in discharge planning.

Nursing administration- As a part of administration, the nurse administrator plays an active role in educating adults regarding Nipah virus infection, which is essential in control of outbreak. The nurse administrator can utilize the type of health teaching which is used for this study to enhance the knowledge of adults. Nursing administrator can depute nurses for various workshops, conference and special courses and also in-service education programs can be arranged for public awareness. The findings of the study should be used as a basis of in-service education programs for nurses so as to make them aware of the present problems in the community. For better coordination and cooperation at the community level nursing administrator discusses on present topics and its preventive measures.

Nursing research- There is a need for extended and intensive nursing research in the area of prevention and use the findings of study for the improvement of society by improving their knowledge for better compliance with the preventive aspects and treatment plans care further risks due to lack of knowledge and negligence.

LIMITATION

The data was collected only through the baseline data, questionnaire.

Data collection period was limited.

Recommendations

⊔A study can be conducted to assess the knowledge regarding NIPAH virus infection.

A comparative study can be done between different categories of professionals.

A study may be conducted to evaluate the effectiveness of booklet related to NIPAH virus infection.

A study can be done on association between various demographic variables, which were significant, on larger samples.

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