

A Study to Assess the Knowledge on Nipah Virus among BPT Students at Institute of Paramedical Science, Kannur

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ABSTRACT

Background: NIPAH virus (NiV) is a zoonotic virus (it is transmitted from animal to human) through contaminated food or directly between people. The case fatality rate is estimated at 40% to 75%. An outbreak of NIPAH infection is occurred in Kerala in May 2018 resulting in 17 deaths.

Objectives: The objectives of this study are to find out the knowledge regarding NIPAH virus among BPT students at Institute of Paramedical Science, Kannur Medical College and also find out the factors associated with level of knowledge.

Methods: The descriptive study was conducted among 30 BPT students of Institute of Paramedical Science in Kannur Medical College. The self-structured knowledge questionnaire was used to assess the knowledge on NIPAH. Then the data was collected, analyzed and entered into Excel. The frequency of awareness among BPT students was expressed in proportions.

Results: Majority 17(56%) of BPT students had moderate knowledge, remaining 13(44%) of BPT Students had inadequate knowledge and no one scored adequate knowledge. There was no significant association between level of knowledge and their selected demographic variables.

Conclusions: The study revealed that the students had moderate and inadequate knowledge, so there is a need of teaching programme to improve their knowledge.

Keywords: Knowledge, NIPAH, BPT students

INTRODUCTION

NIPAH virus is a recently emerged deadly paramyxovirus. It was identified as the etiologic agent of an outbreak of severe encephalitis in people with close contact exposure to pigs. Until the recent outbreak in Kerala (2018), knowledge of human infection with NIPAH virus was limited to Malaysia, Singapore and Bangladesh [1]. NIPAH outbreak in Malaysia altered global public health community to the severe pathogenic potential and wide spread distribution of these unique paramyxoviruses. NIPAH was initially isolated and identified in 1999 during an outbreak of encephalitis and respiratory illness among pig farmers and people with close contact with pigs in Malaysia and Singapore[2].

Mainly the cause of NIPAH is NIPAH virus or after directed contact with infected bats, infected pigs. It is associated with ingestion of contaminated Date palm sap and human to human transmission. The incubation period of NIPAH infection varies from 4-14 days.

Clinical features range from asymptomatic infection to acute respiratory tract infection and fatal encephalitis. The case fatality rate is 40-70%. The signs and symptoms of NIPAH begin with fever and headache and followed by inflammation of brain(encephalitis), drowsiness and disorientation

characterized by mental confusion and dizziness. About half of the cause also experiences respiratory symptoms. These signs and symptoms can progress to coma within 24-48 h. Other symptoms are myalgia, sore throat, vomiting, dizziness etc. older patients, especially those supportive cares and to having diabetes mellitus and those with severe brain-stem involvement carried a poorer prognosis [3].

The natural host for NIPAH virus is fruit bats belonging to family Pteropodidae and pigs. The treatment is limited to viruses currently there is no vaccine available against NIPAH virus. During the first recognize outbreak in Malaysia, which also affected Singapore [4]. Most human infections resulted supportive care and to prevent hospital acquired infections.

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The drug Ribavirin has been shown to be effective against the from direct contact with sick pigs or their contaminated tissues. Transmission is thought to have occurred via unprotected exposure to secretions from the pigs. In subsequent outbreaks in Bangladesh and India, consumption of fruits or fruit products (such as raw date palm juice) contaminated with urine or saliva from infected fruit bats was the most likely source of infection [5].

The first case occurred in Calicut District, Northern Kerala, and the infection spread to the neighboring districts. The health ministry and health professionals had done outstanding work to control the disease. The Government has initiated a multi-disciplinary team approach to control this situation. A multi-disciplinary central team from the national control for disease sent to Kerala to investigate and respond.

METHODS

The descriptive design is adopted the investigator conducted the study at Institute of Paramedical Science, Kannur Medical College among BPT students. The study samples were selected using nonprobability convenience sampling technique. The sample size was 30. Self-structured knowledge questionnaire was used to assess the level of knowledge on NIPHA among BPT students. It consists of 20 multiple choice questionnaires. Questions (1-4) based on causative agent, (5, 6) based on prevalence, (7, 8) based on mode of transmission, (9, 10) based on risk factor, (11) based on incubation period (12, 13) based on signs & symptoms, (14, 15, 16) based on diagnosis, (17) based on complication, (18) based on treatment, (19, 20) preventive aspects.

Each question has 4 choices, the correct response was scored as 1 and the wrong answer was zero.

To establish the reliability of the tool, a split half method was used. Correlation coefficient was found to be ($r=0.85$). Thus, the data was collected and entered into excel. The duration of data collection is 1 week. Ethical clearance was taken from institutional ethical committee board. The data was analyzed on the basis of objectives and hypothesis using descriptive and inferential statistics. The result was projected with appropriate tables and graphs.

$$N=Z^2 O^2$$

$$E^2$$

Z value is 1.96 for 95% confidence inferential (1.645 for 90%)

$$Z=1.96(95\% \text{ confidence level})$$

$$e=2$$

$$N= Z^2 O^2 / E^2$$

$$= 1.96^2 * 5^2 / 2^2$$

$$24.01=24$$

If the allowance of 10% for missing, losses, to follow up, withdrawal is assumed the corrected sample will be 27 subjects

$$(24+24*10/100)$$

Hence the researcher takes 30 as the sample size to conduct this research.

Results

Table 1 indicates the distribution of respondents by age where majority 16 (54%) belongs to the age group of 19-20 years, 12 (40%) were in 17-18 years, 1 (3%) were in 21-22 years and 1 (3%) were in >23 years. Majority of the BPT students 25 (83%) were females and 5 (17%) were males. Majority of BPT students 14 (47%) of BPT students were Hindu, 12 (40%) were Muslim and 4 (13%) were Christians. Majority of the BPT students 28(93%) were unmarried and 2 (7%) were married. Majority of the BPT students 26 (87%) were belongs to nuclear family, 3 (10%) were in joint family and 1 (3%) belongs to conjoint family. Majority of the BPT students 30 (100%) had previous knowledge on NIPHA Virus. Majority of the BPT students 30(100%) had source of information through mass media.

Table 2 represents frequency and percentage distribution of respondents on knowledge level; in which majority 17(56%) of respondent had moderate knowledge, 13(44%) of respondent had inadequate knowledge level regarding NIPAH virus among BPT students, none of them having adequate knowledge.

Table 3 represents the mean, standard deviation. The mean is 9.033 with standard deviation 3.96

Table 4 shows the association of level of knowledge score with selected demographic variables. It is evident from this table, that there is no significant association with the variables like age, sex, religion, marital status, type of family previous knowledge, source of information on NIPAH virus.

DISCUSSION AND CONCLUSION

The present study found that, the knowledge level among 30 respondents, 13(44%) had inadequate, 17(56%) had moderate, and 0(0%) had adequate knowledge. The mean value was 9.033 with the standard deviation of 3.96. Chi square was computed to find the association between the selected variables with the level of knowledge scores of BPT students on Nipah virus, which shows there is no association between selected demographic variables like age with computed $\chi^2=1.22$ at 3df, sex with computed $X^2=0.053$ at 1df, religion with computed $\chi^2=4.752$ at 2df, marital status with computed $X^2= 0.0096$ at 1df, type of family with computed $X^2= 1.360$ at 2 df at p 0.05 level. The present study also reveals that there is no association between selected demographic variables like family income, type of family, previous knowledge in relation with the level of knowledge

Table 1. Frequency and percentage distribution of respondents by demographic variables. P at 0.05 level N=30.

Sl. No.	Demographic variables	Frequency	Percentage
1.	Age		
	A) 17-18 years	12	40%
	B) 19-20 years	16	54%
	C) 21-22 years	1	3%
	D) >23 years	1	3%
2.	Sex		
	A) Male	5	17%
	B) Female	25	83%
3.	Religion		
	A) Hindu	14	47%
	B) Christian	4	13%
	D) Muslim	12	40%
4.	Marital status		
	A) Married	2	7%
	B) Unmarried	28	93%
5.	Type of family		
	A) Joint Family	3	10%
	B) Nuclear family	26	87%
	C) Conjoint family	1	3%
6.	Previous knowledge		
	A) Yes	30	100%
	B) No	0	0%
7.	Source of information		
	A) Mass media	30	100%
	B) Friends	0	0%
	C) Health education	0	0%
	D) Books	0	0%

Table 2. Frequency and Percentage Distribution of level of knowledge on NIPAH virus among BPT students. N=30.

Knowledge	Category		Respondent	
	Frequency	Percentage	Frequency	Percentage
Adequate	15-20	71-100%	0	0%
Moderate	10-14	46-70%	17	56%
Inadequate	0-9	0-45%	13	44%
Total			20	

Table 3. The mean and standard deviation. N=30.

Obtained score	Maximum score	Mean	Median	Mode	Standard deviation
4-13	20	9.033	11	12,11	3.96

Table 4. Association between level of knowledge score and their related demographic variables. N=30.

Sl No	Demographic variables	Sample	Percentage (%)	Chi-Square	Df	Inference
1.	Age a) 17-18 years b) 19-20years c) 21-22years d) >23years	12 16 1 1	40% 54% 3% 3%	1.22	3	NS
2.	Sex a) Male b) Female	5 25	17% 83%	0.053	1	NS
3.	Religion a) Hindu b) Christian c) Muslim	14 4 12	47% 13% 40%	4.752	2	NS
4.	Marital status a) Married b) Unmarried	2 28	7% 93%	0.0096	1	NS
5.	Type of family a) Nuclear family b) Joint family c) Conjoint family	26 3 1	87% 10% 3%	1.360	2	NS
6.	Previous knowledge a) Yes b) No	30 0	100% 0%	Nil	1	NS
7.	Source of information a) Mass media b) Friends c) Health education d) Books	30 0 0 0	100% 0% 0% 0%	Nil	3	NS

NS =Not significant. P at 0.05 level

scores of BPT students at p 0.05 level.

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