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PERCEPTION REGARDING NIPAH VIRUS INFECTION AMONG RURAL COMMUNITY IN BANGLADESH

Dr. Ishrat Rafique Eshita

MBBS (CBMC,B), MPH (BSMMU)

MD, DO (Phase-1) Hyperbaric Medicine, USA

ishrateshita@gmail.com

ABSTRACT

This cross-sectional study was conducted in a rural community of Sador upogila of Kurigram district under Rangpur division among 146 adult people. Data were collected by face-to-face interview using a semi-structured questionnaire. The study revealed that majority (75.0%) of the respondents was females and the rest (71.0 %) of them were males. Majority (30.1%) of them had primary level education and majority (38.4%) was housewives while all most all of them (97.9%) were Muslim. Majority (34.2%) of the respondents were in the age group 18-28years with mean age 29.38(±7.401) years. Their average monthly family income was TK. 4154 (±2181.5) and average family member was 4.52(± 1.828) persons. Out of all the respondents, majority (56.2%) had no perception that Nipah virus infection is a communicable disease and rest of them (43.8%) had perception about it. Regarding cause of Nipah virus infection, (54.1%) of the respondents did not know and very few (27.4%) knew about it. Majority (46.6%) had no perception regarding spread of Nipah virus infection, regarding clinical feature majority (33.6%) of them did not know. Majority (34.2%) had no perception regarding high risk group of Nipah virus infection, (53.4%) had no perception regarding treatment, (53.4%) had no perception about the place of treatment and (8.2%) had no perception regarding care of Nipah virus infected patient. Regarding prevention of Nipah virus infection, out of all respondents, majority (37.7%) opined about fruits intake by washing, 43.2% of them told that raising social awareness can prevent Nipah virus infection and 37.7% had no perception about it, 58.2% had no perception regarding relation with environment and most (84.9%) of the respondents had perception regarding changing food habit, Nipah virus infection which can be prevented. Out of all respondents, majority (52.0%) had poor perception followed by 32.4% had average and few 12.7 % had good perception. Out of all respondents having primary level education, majority (50.0%) had poor perception followed by 29.5% had average and 20.5% had good perception. This difference was not statistically significant χ^2 value =14.009, P=.173. Majority (51.8%) of housewives had poor perception followed by 28.6% had average and 19.6% had good perception regarding Nipah virus infection. This difference was not statistically significant χ^2 value =5.538, P=.853. The

study revealed that majority (60.0%) of the age group18-25 years had poor perception followed by 34.0% had average and 6.0% had good perception regarding Nipah virus infection. This difference was not statistically significant χ^2 value =13.597, P=.034. Majority (57.3%) of the income group TK.5000-15000, had poor perception followed by 32.6% had average and 10.1% had good perception. This difference was not statistically significant χ^2 value =8.967, P=.345. This study revealed that health education intervention through different media is essential to raise perception of rural people regarding Nipah virus infection.

CHAPTER 1

1.1 Introduction:

A virus that infects pigs and people in whom it causes a sometimes fatal form of viral encephalitis (brain inflammation). Nipah is the name of the first village the virus struck near Kuala Lumpur in Malaysia. The Nipah virus is similar to Hendra virus that was discovered in Australia in 1994. Nipah virus caused a severe outbreak of viral encephalitis in Malaysia in 1998 - 1999.[1]

Nipah virus disease is a newly discovered disease of swine and humans associated with infection with a new paramyxovirus given the name Nipah virus. This disease emerged in Malaysia in 1998 and 1999. It was linked to severe encephalitis among humans occupationally exposed to infected pigs in Malaysia and Singapore. The disease was eradicated from the national commercial swine population by control efforts. Fruit bats of the genus Pteropus appear to be reservoirs of the virus.[2]

Nipah virus is a recently emergent paramyxovirus that is capable of causing severe disease in both humans and animals. The first outbreak of Nipah virus occurred in Malaysia and Singapore in 1999 and, more recently, outbreaks were detected in Bangladesh. In humans, Nipah virus causes febrile encephalitis with respiratory syndrome that has a high mortality rate. The reservoir for Nipah virus is believed to be fruit bats, and humans are infected by contact with infected bats or by contact with an intermediate animal host such as pigs. Person to person spread of the virus has also been described. Nipah virus retains many of the genetic and biologic properties found in other paramyxoviruses, though it also has several unique characteristics. However, the virologic characteristics that allow the virus to cause severe disease over a broad host range, and the

epidemiologic, environmental and virologic features that favor transmission to humans are unknown.[3]

During the initial outbreaks in Malaysia and Singapore, most human infections resulted from direct contact with sick pigs or their contaminated tissues, throat or nasal secretions from the pigs, or contact with the tissue of a sick animal. In the Bangladesh and India outbreaks, consumption of fruits or fruit products (e.g. raw date palm juice) contaminated with urine or saliva from infected fruit bats was the most likely source of infection.

During the later outbreaks in Bangladesh and India, Nipah virus spread directly from human-to-human through close contact with people's secretions and excretions. In Siliguri, India, transmission of the virus was also reported within a health-care setting, where 75% of cases occurred among hospital staff or visitors. From 2001 to 2008, around half of reported cases in Bangladesh were due to human-to-human transmission.[4]

Human infections range from asymptomatic infection to fatal encephalitis. Infected people initially develop influenza-like symptoms of fever, headaches, myalgia (muscle pain), vomiting and sore throat. This can be followed by dizziness, drowsiness, altered consciousness, and neurological signs that indicate acute encephalitis. Some people can also experience atypical pneumonia and severe respiratory problems, including acute respiratory distress. Encephalitis and seizures occur in severe cases, progressing to coma within 24 to 48 hours. The incubation period (interval from infection to onset of symptoms) varies from four to 45 days.

Most people who survive acute encephalitis make a full recovery, but around 20% are left with residual neurological consequences such as persistent convulsions andpersonality changes. A small number of people who recover

subsequently relapse or develop delayed onset encephalitis. In the long term, persistent neurological dysfunctions are observed in more than 15% of people.[5]

1.2 JUSTIFICATION

About 80% people of Bangladesh lived in village and they are more or less vulnerable to Nipah virus infection. Outbreaks of Nipah virus have occurred since 1999, in countries such as Malaysia, Singapore and Bangladesh. It is interesting that Nipah virus has an unusually broad host range, which includes humans, pigs, dogs, cats, horses, guinea pigs, hamsters and fruit bats. Nipah Virus can cause fatal encephalitis in up to 70 percent of infected patients.

Bangladesh is a under developed country that's why we cannot take appropriate measure against Nipah virus infection. On the other hand most of the people in Bangladesh are illiterate and do not know what measure they should against Nipah virus infection.

Nipah virus infection occurs mainly in winter season in Bangladesh. During that time there is plenty production of jojoba and date juice as a result the general people eat them a lot not considering the hygienist of the product. A little consciousness and education could save many people's lives. In rural community people are not much educated; as a result they become the victim of this deadly infection. In most cases before understanding the nature and the sign symptoms of this disease the victim gets neuron encephalitis from where it is very difficult to survive. Most of the victims die before reaching the hospital and few lucky one who makes it to the Thana health complex dose not receive the proper treatment and the proper

facilities. They are later on transferred to a Division level hospital but unfortunately it becomes too late.

It is high time for the government to take drastic measurement .They should start by educating the rural people about the cause and effects of nipah virus infection. Media could be the one of the important tool. By creating short film, advertisement, folk songs, and educational program regarding awareness of nipah virus infection .Every school of the vulnerable area should teach their children the source, effect, control and danger of the out bust of Nipah virus infection.

Doctors, medically trained professionals, and NGOs play a significant role in this matter. They should go house to house educate people about the perception of nipah virus infection. All together nipah virus infection is very life threading and because there is no vaccine available. If the prevention is properly carried out than the Nipah virus infection could be eliminated.

1.3 Research Question:

What is the level of perception regarding Nipah virus infection?

1.4 Objective of the Study:

1.4.1 General Objective:

To assess the level of perception regarding Nipah virus infection of a rural community.

1.4.2 Specific Objectives:

1. To determine the socio demographic characteristics of selected rural community.
2. To assess the level perception regarding occurrence of Nipah virus infection.
3. To assess the level of perception regarding treatment of Nipah virus infection.
4. To assess the level of perception regarding prevention and control of Nipah virus infection.

1.5 Key Variable:

1.5.1 Dependent Variable:

- Level of perception regarding Nipah virus infection

1.5.2 Independent Variable:

A- Socio demographic character-

- Age
- Sex
- Education
- Occupation
- Religion
- Monthly family income

- Family member

B-Occurrence of disease-

- Type of disease
- Cause of disease
- Spread of disease
- Clinical feature of disease
- High risk people

C-Treatment-

- Concept of disease
- Place of treatment
- Take care of infected patient

D-prevention-

- Prevention of Nipah virus infection
- Social activity
- Relation with environment
- Change of food habit

Operational Definition

1.6: Operational Definition

Perception: the act of perceiving or the ability to perceive; mental grasp of objects, qualities, etc. by means of the senses; awareness; comprehension.

Level of perception: The level of perception on nipah virus infection was assured by respondents given score good, average and poor. The total score was 9.The upper score was 9 and range 7 to 9 (good), average score was 6 and range 4 to 6(average) and lower score was 0, range1to3 (poor).Total questions number was 19 .The following aspects of nipah virus infection was considered for assessing the level of perception as nipah virus infection as a disease of human as a communicable disease as preventable disease.

- High score 9
- Low score 0
- Good- 7 to 9
- Average- 4 to 6
- Poor- 0 to 3

SOURCE: The source of infection is defined as the person, animal, Object, or substance from which one of the infectious agent passes or disseminated to the host.

Source of Nipah virus infection:

- Raw juice of date
- Jujube/kul Boroi

Mode of Transmission of Nipah virus infection:

- Intake Raw Juice of Date (contaminated by bats saliva and urine).
- Infectious Jujube / kul Boroi (Eaten by bats).
- Contact with Nipah virus infected patient.

Clinical feature of Nipah virus infection:

- Hyperpyrexia
- Difficulty in breathing
- Severe Headache
- Muscle pain/ myalgia

Nipah virus epidemiology in Bangladesh is that, in contrast to Malaysia, where person-to-person transmission of Nipah virus was not confirmed.[9]

The high prevalence of antibodies to Nipah virus among *Pteropus* spp. bats suggests that Nipah virus is well adapted to transmission between individual bats of that genus. We hypothesize that when a *Pteropus* spp. bat sheds Nipah virus in Bangladesh, this virus occasionally infects 1 or more persons. Once people are infected, the epidemic chain of transmission can be perpetuated by person-to-person transmission .[10]

This possibility of asymptomatic infection suggests that our estimate of the basic reproductive rate is a minimal estimate. However, in outbreaks, when mild or asymptomatic persons were screened in Bangladesh, few additional Nipah cases were identified moreover, only patients who died transmitted the infection, so the possible infection of persons in whom mild illness developed is unlikely to contribute to the risk for pandemic transmission.

A third limitation is that we identified only 9 persons who transmitted Nipah virus and so have limited statistical power to assess their characteristics. Indeed, the association of cough with Nipah virus transmission and death with Nipah transmission are above the traditional guideline for statistical significance. However, the weight of the evidence, including an association with respiratory illness that meets the traditional criterion for statistical significance and the isolation of Nipah virus in respiratory secretions, suggests that person-to-person transmission occurs occasionally from virus-infected patients who are efficient respiratory transmitters of the virus.

A fourth limitation is that this analysis assumes that persons in whom Nipah illness developed 5–15 days after contact with a Nipah patient were considered infected by the contact. If the subsequent case-patient had a similar environmental exposure to Nipah virus as the initial case-patient, this approach may overestimate the proportion of cases that result from person-to-person transmission. However, Nipah virus is readily recovered from the saliva of infected persons.[11-12]

One hypothesis that would explain this geographic concentration of human cases is that the bats are attracted to specific foods available in these areas during the winter and spring; people living in these communities are occasionally exposed to foods contaminated with bat urine or saliva that contains Nipah virus. One outbreak of Nipah virus was associated with consumption of raw date palm sap, which is harvested from December through March in this region .[13]

In 21 of the 23 recognized index case-patients, Nipah virus illness developed during this harvest season.

Person-to-person transmission is a major pathway for human Nipah virus infection in Bangladesh, accounting for 51% of recognized cases in this review. By contrast, in Malaysia and Singapore, person-to-person transmission was not confirmed, although 1 nurse who cared for Nipah patients in an intensive care unit in Malaysia and reported no clinical illness had serologic evidence of Nipah virus infection and brain magnetic resonance imaging consistent with Nipah virus infection.[14]

Even if occasional unrecognized person-to-person transmission of Nipah virus occurred in the outbreak in Malaysia, person-to-person transmission is much more apparent and common in Bangladesh. Moreover, the outbreak in Siliguri, India, in 2001 was also characterized by widespread person-to-person transmission.[15]

Three factors likely contributed to the higher frequency of person-to-person transmission of Nipah virus in Bangladesh than was observed in Malaysia. First, respiratory disease associated with Nipah infection was more common and more severe in Bangladesh compared with that in Malaysia and Singapore.[16]

We found that Nipah case-patients who had difficulty breathing were much more likely to be Nipah spreaders. Together, these findings suggest that when a Nipah virus–infected patient has a symptomatic respiratory tract infection associated with Nipah virus, the patient can shed infectious inoculums of Nipah virus in his respiratory secretions. In the largest recognized Nipah outbreak in Bangladesh, touching a patient who had respiratory difficulties was a risk factor for developing Nipah infection.[17]

A more complete understanding of the character of Nipah virus infection in Bangladesh has been limited by the analysis of relatively small individual outbreaks. We combined data from the 7 recognized human outbreaks and the identified sporadic cases of Nipah virus in Bangladesh from 2001 through 2007. The objective was to describe the introduction of Nipah virus into the human population and the epidemiology of person-to-person transmission.

We reviewed available data from investigations of all of the human Nipah infections recognized in Bangladesh from 2001 through 2007. Information from the separate investigations was combined into a single database. Not all variables of interest were collected from the earliest outbreaks, but because many of the same investigators were involved across the outbreaks, data were collected in similar formats.

Persons were classified as being infected with Nipah virus if they had fever with new onset of altered mental status, seizures, or severe shortness of breath and either had specific antibodies against Nipah virus or were part of a cluster of similar case-patients in the same region, with at least 1 of the case-patients being Nipah-antibody positive. In addition, if a person had fever and immunoglobulin (Ig) M antibody to Nipah, that person was classified as being infected with Nipah virus.

We classified Nipah cases as part of a cluster if at least 1 other Nipah case was identified in the same community within 3 weeks of onset of illness. If no other cases appeared in the same community within 3 weeks, the Nipah case was classified as an isolated case.

We counted distinct introductions of Nipah virus into the human population. Each cluster of Nipah case-patients and each sporadic case was counted as a separate Nipah introduction.

We classified persons as primary case-patients if illness developed without known contact with any other Nipah case-patients, as secondary case-patients if Nipah disease developed 5–15 days after close contact with other Nipah case-patients, and as Nipah spreaders if at least 1 person with whom

that person had close contact had Nipah illness develop 5–15 days after that contact. We collected geographic coordinates by using global positioning systems from the home of each case-patient.

He field team, which involved a large number of different people over the course of the many outbreak investigations, centrifuged whole blood specimens and brought the separated serum on wet ice to the laboratory at the International Center for Diarrheal Diseases Research, Bangladesh (ICDDR,B), where it was stored at –70°C. Before 2007, serum samples were shipped on dry ice to the US Centers for Disease Control and Prevention (CDC) and tested with an IgM capture enzyme immunoassay (EIA), which detects Nipah IgM, and with an indirect EIA for Nipah IgG.[18]

Nipah (Malaysia prototype) virus antigen was used in both assays. In 2007, the Nipah antibody testing was conducted at the government of Bangladesh's Institute of Epidemiology Disease Control and Research using reagents provided by the Special Pathogens Branch of CDC in Atlanta. All positive samples were confirmed at CDC.

We assessed whether differences in proportions were more extreme than would be expected by chance by using the χ^2 test or the Fisher exact test when the expected cell size was <5. The basic reproductive number (R_0) is the average number of persons infected by an infectious person during his or her entire infectious period when he/she enters a totally susceptible population.[19]

These introductions of Nipah virus from its presumed reservoir in *Pteropus* bats to humans in Bangladesh were clustered, both in time of year as well as

in specific years. Occurring during winter and spring in certain years, this clustering in Bangladesh suggests that the specific conditions necessary for Nipah virus transmission from bats to humans occurs only periodically. Perhaps shedding of Nipah virus by *Pteropus* bats is seasonal, and because of population dynamics and the accumulation of susceptible juvenile bats over time, transmission is quite low in some years compared with other years when widespread shedding and transmission occur.

The presumed wildlife reservoir of Nipah virus, bats of the genus *Pteropus*, is widely distributed across Bangladesh, the rest of the Indian subcontinent, and Southeast Asia.[20]

Human Nipah infections in Bangladesh, however, have been recognized in a confined geographic area. The Institute of Epidemiology Disease Control and Research in Bangladesh has national surveillance for disease outbreaks. Outbreaks involving the deaths of several previously healthy persons, which is characteristic of Nipah outbreaks, typically generate substantial local concern, media attention, and notification of local and central health authorities. Despite investigations of outbreaks in all regions of the country, all confirmed Nipah outbreaks have occurred in the same central and northwestern regions Notably, the only 2 outbreaks that have been reported from India have been in regions within 50 kilometers of the border with Bangladesh and immediately contiguous with the affected areas in Bangladesh.[21-22]

Hypothesis that would explain this geographic concentration of human cases is that the bats are attracted to specific foods available in these areas during the winter and spring; people living in these communities are occasionally

exposed to foods contaminated with bat urine or saliva that contains Nipah virus. One outbreak of Nipah virus was associated with consumption of raw date palm sap, which is harvested from December through March in this region.[23]

Even if occasional unrecognized person-to-person transmission of Nipah virus occurred in the outbreak in Malaysia, person-to-person transmission is much more apparent and common in Bangladesh. Moreover, the outbreak in Siliguri, India, in 2001 was also characterized by widespread person-to-person transmission.[24]

The available data on human Nipah virus infection in Bangladesh are biased toward infections acquired in outbreaks recognized by public health authorities. Because meningoencephalitis is a common cause of hospitalization in Bangladesh, sporadic cases that are unrecognized as Nipah virus infection may be the more common presentation of Nipah virus infection in the country. Indeed, during 2004 and 2007, years when multiple outbreaks were identified, many patients who sought treatment for symptoms of encephalitis in hospitals located near identified outbreak areas were tested for Nipah virus. This testing identified several additional patients infected with the virus who lived quite a distance from the outbreak villages and who had no apparent connection to other cases. Thus, surveillance almost certainly underestimates the public health impact of Nipah virus infection in Bangladesh and may underestimate its geographic and seasonal range. Because outbreaks are more likely to lead to recognition of Nipah virus infection than sporadic cases and person-to-person transmission can

occur only in clusters, the overall proportion of Nipah virus infections in Bangladesh that are transmitted person to person is probably <50%.

A second limitation is that the calculation of the basic reproductive rate assumed that all persons infected by a primary case-patient were identified. The investigation team could have failed to recognize all cases, especially in persons with milder or asymptomatic infection. In Malaysia, among 178 persons without symptoms who lived on farms where at least 1 person with confirmed Nipah encephalitis was identified, 20 (11%) had antibodies against Nipah virus.[25]

This possibility of asymptomatic infection suggests that our estimate of the basic reproductive rate is a minimal estimate. However, in outbreaks, when mild or asymptomatic persons were screened in Bangladesh, few additional Nipah cases were identified moreover, only patients who died transmitted the infection, so the possible infection of persons in whom mild illness developed is unlikely to contribute to the risk for pandemic transmission.

A third limitation is that we identified only 9 persons who transmitted Nipah virus and so have limited statistical power to assess their characteristics. Indeed, the association of cough with Nipah virus transmission and death with Nipah transmission are above the traditional guideline for statistical significance. However, the weight of the evidence, including an association with respiratory illness that meets the traditional criterion for statistical significance and the isolation of Nipah virus in respiratory secretions, suggests that person-to-person transmission occurs occasionally from virus-infected patients who are efficient respiratory transmitters of the virus.

A fourth limitation is that this analysis assumes that persons in whom Nipah illness developed 5–15 days after contact with a Nipah patient were considered infected by the contact. If the subsequent case-patient had a similar environmental exposure to Nipah virus as the initial case-patient, this approach may overestimate the proportion of cases that result from person-to-person transmission. However, Nipah virus is readily recovered from the saliva of infected persons.[26]

CHAPTER 3: METHODOLOGY

3.1: Study Design: The study was a cross sectional study.

3.2: Study place: The study was conducted in the village named Noah gram of Kurigram district under Rangpur division. The study area was selected because that area is near to my home district and the outbreak of Nipah virus occurs to the neighboring village.

3.3: Study period: The study was conducted during the period of 6 months started from January to June (2011).

3.4: Study population: People of Noah gram village of Kurigram district under Rangpur division.

3.5.1: Inclusion criteria:

- Adult more than 18 years.
- Both male and female irrespective of sex.
- Every adult in a house hold who gave written Consent.

3.5.2: Exclusion criteria:

- Adult who did not give written consent.
- Physically and mentally ill patient.
- Person who are visited from outside.

3.6: Sample size: A sample size consisting of 146 respondents.

Formula: $Z^2pq/d^2 = 384$

3.7: Sampling technique: The Sampling technique was systematic random sampling.

Sampling technique=Population size/sample size

=438/146

=3

3.8: Data collection tools: The study was conducted by Sami-structured questionnaire.

3.9: Data collection technique: Data were collected by face-to-face interview. Data were collected by the researcher herself with the help of a questionnaire from one house to another. Before collection of data the identification of the research her and the purpose was explained clearly to the respondents. The interview was conducted in a comfortable atmosphere with written consent, so that they could answer to the questions confidently and without any hesitation.

3.10: Data processing:

- Categorizing of data
- Coding
- Summarizing the data and entry of data into the soft were by using latest available version.

3.11: Data analysis:

Data analyses were done by computer with the help latest available version of SPSS software. Descriptive study were done in terms of mean, median, mode and standard deviation. Than appropriate statistical test were performed to find out the association between different variables as and when necessary.

3.12: Ethical consideration:

- Ethical clearances were taken from ethical committee of NIPSOM.
- Before collection of data informed written consent were taken from each of the respondent.
- During data collection privacy and confidentiality were maintained strictly.

CHAPTER 4: RESULTS

This was a cross sectional study conducted in a rural community of Kurigram in Rangpur Division. The study was conducted to assess the perception of the rural community about the Nipah Virus infection. A total of 146 respondents were interviewed using questionnaire.

4.1: Distribution of respondents by age

Among all of the respondents, 50 (34.2%) were in the age group 18-24year followed by 44 (30.1%) in age group 25-30year, 42 (28.8%) in age group 31-40year, 10 (6.8%) in age group 41-50year. The mean age of the respondents was 29.38 (± 7.401 years), which is shown in table-1

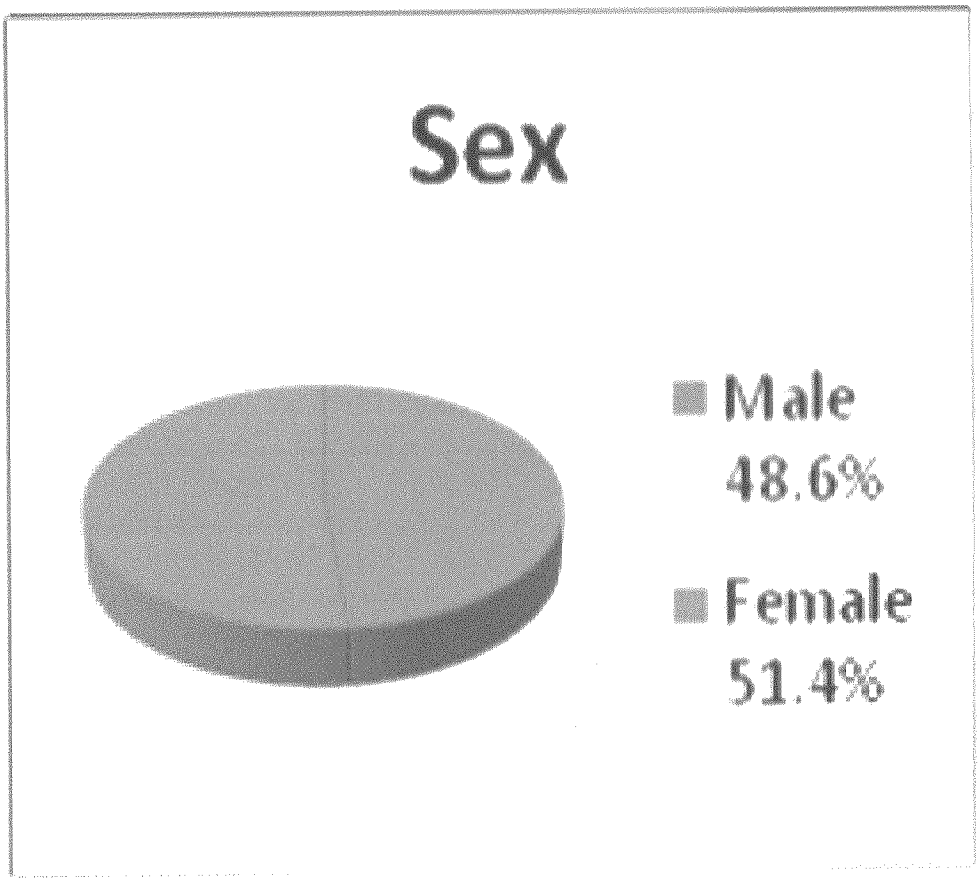
Table-1: Distribution of respondents by age group

Age Group	Frequency	Percent
18-25	50	34.2
25-30	44	30.1
31-40	42	28.8
41-50	10	6.8
Total	**146**	**100.0**
Mean± SD	**29.38 ± 7.401 years**	

4.2: Distribution of respondents by sex

Out of all the respondents, 71 (48.6%) were males and the rest 75 (51.4%) were female, which is shown in figure-1

Figure-1: Distribution of the respondent by sex.



4.3: Distribution of respondents by education

Out of all the respondents, 44 (30.1%) were primary level, 33 (22.6%) were Secondary level, 30 (20.5%) were SSC, 15 (10.3%) were HSC, 14 (9.6%) were Bachelor and 10 (6.8%) were illiterate, which is shown in table-2

Table-2: Distribution of respondents by level of education

Education	Frequency	Percent
Primary	44	30.1
Secondary	33	22.6
SSC	30	20.5
HSC	15	10.3
Bachelor	14	9.6
Illiterate	10	6.8
Total	146	100.0

4.4: Distribution of the respondents by occupation

Out of all the respondents, 26 (17.8%) were Businessman, 48 (32.9%) were Service holder, 1 (0.7%) was Day laborer, 7 (4.8%) were Farmers, 8 (5.5%) were Students and 56 (38.4%) were housewives, which is shown in table-3

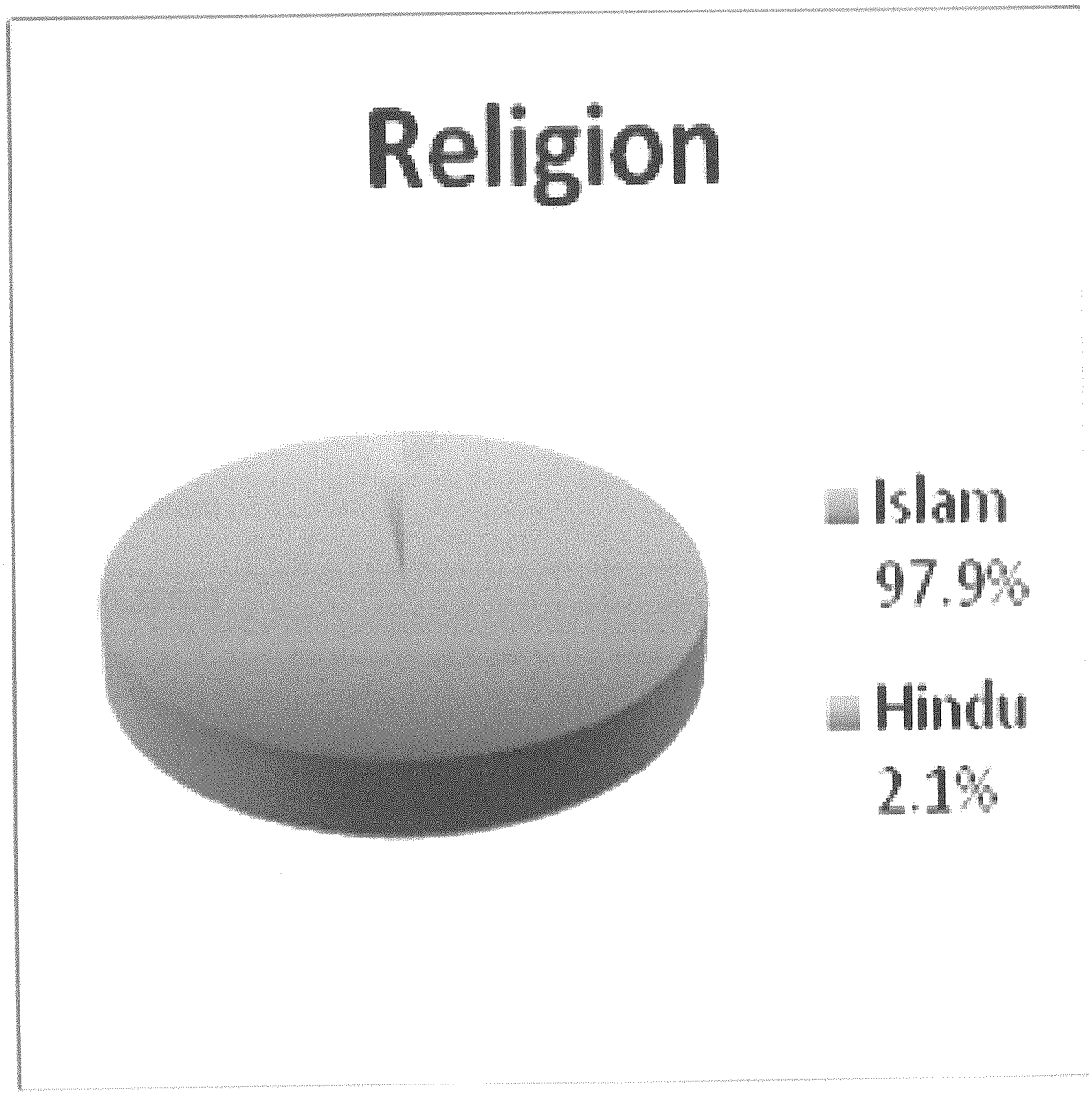
Table-3: Distribution of the respondents by occupation.

Occupation	Frequency	Percent
Business	26	17.8
Service	48	32.9
Day labour	01	0.7
Farmer	07	4.8
Student	08	5.5
Housewife	56	38.4
Total	146	100.0

4.5: Distribution of respondents by Religion

Out of all the respondents, 143 (97.9%) were Muslims and 3 (2.1%) were Hindu, which is shown in figure-2

Figure-2: Distribution of respondents by Religion.



4.5: Distribution of the respondents by monthly family income

Among all of the respondents, 89 (61.0%) were income ranging from 5000-15000TK, 41 (28.1%) were ranging from 16000-25000TK, 12(8.2%) were ranging from 26000-35000TK, 2 (1.4%) were ranging from 36000-45000TK, 2 (1.4%) were ranging from 46000-55000TK. The mean family income of the respondents was Tk. 4154+2181.5, which is shown in table-4

Table-4: Distribution of the respondents by monthly family income

Income	Frequency	Percent
5000-15000	89	61.0
16000-25000	41	28.1
26000-35000	12	8.2
36000-45000	2	1.4
46000-55000	2	1.4
Total	146	100.0
Mean± SD	4154+2181.5	

4.6: Distribution of the respondents by family member

Out of all the respondents, 90 (61.6%) were 2-4 person, 50 (34.2%) were 5-7 person, 4 (2.7%) were 8-10 person and 2 (1.4%) were 11-15 family member. The mean Family member of the respondents was 4.52 ± 1.828, which was shown in table-5.

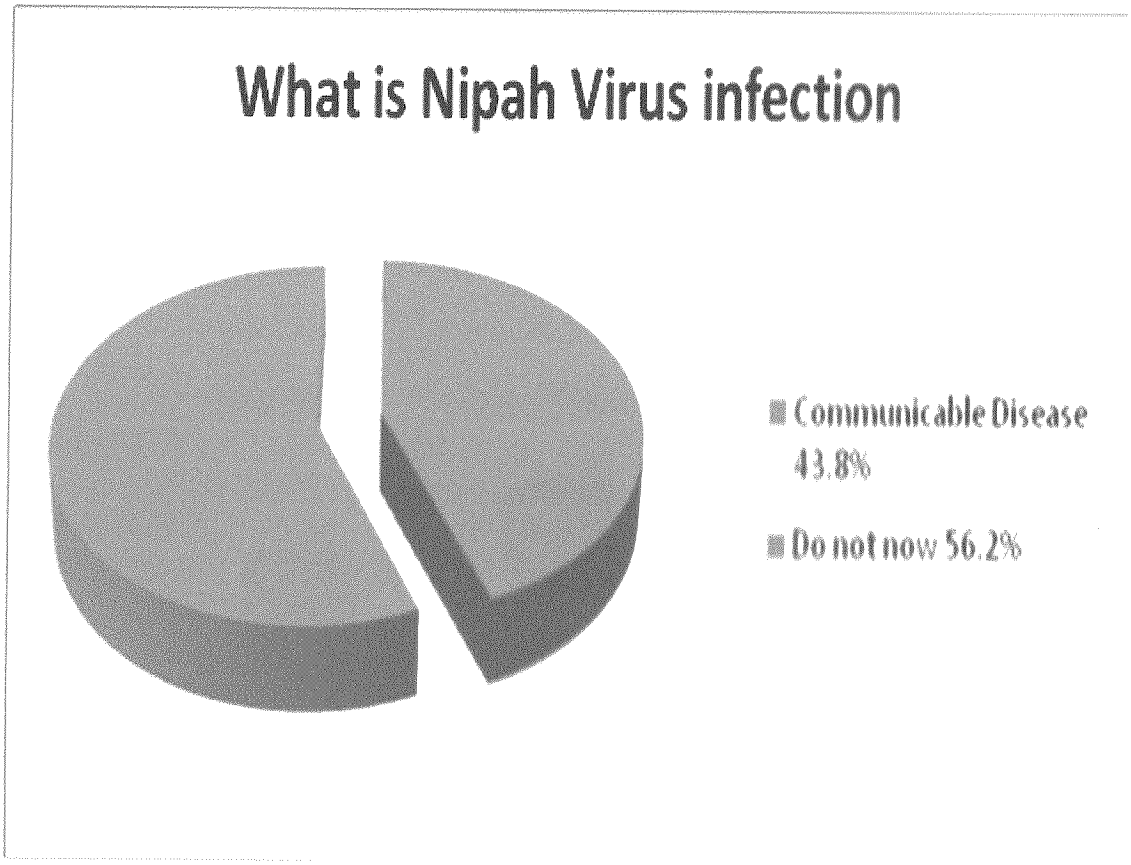
Table-5: Distribution of the respondents by family member.

Family Member	Frequency	Percent
2-4	90	61.6
5-7	50	34.2
8-10	4	2.7
11-15	2	
Total	146	100.0
Mean± SD	4.52± 1.828	

4.6: Distribution of the respondents regarding what is Nipah Virus infection

Among all of the respondents 64 (43.8%) were know that Nipah virus infection is a Communicable Disease and 82 (56.2%) did not know, which was shown in figure-3

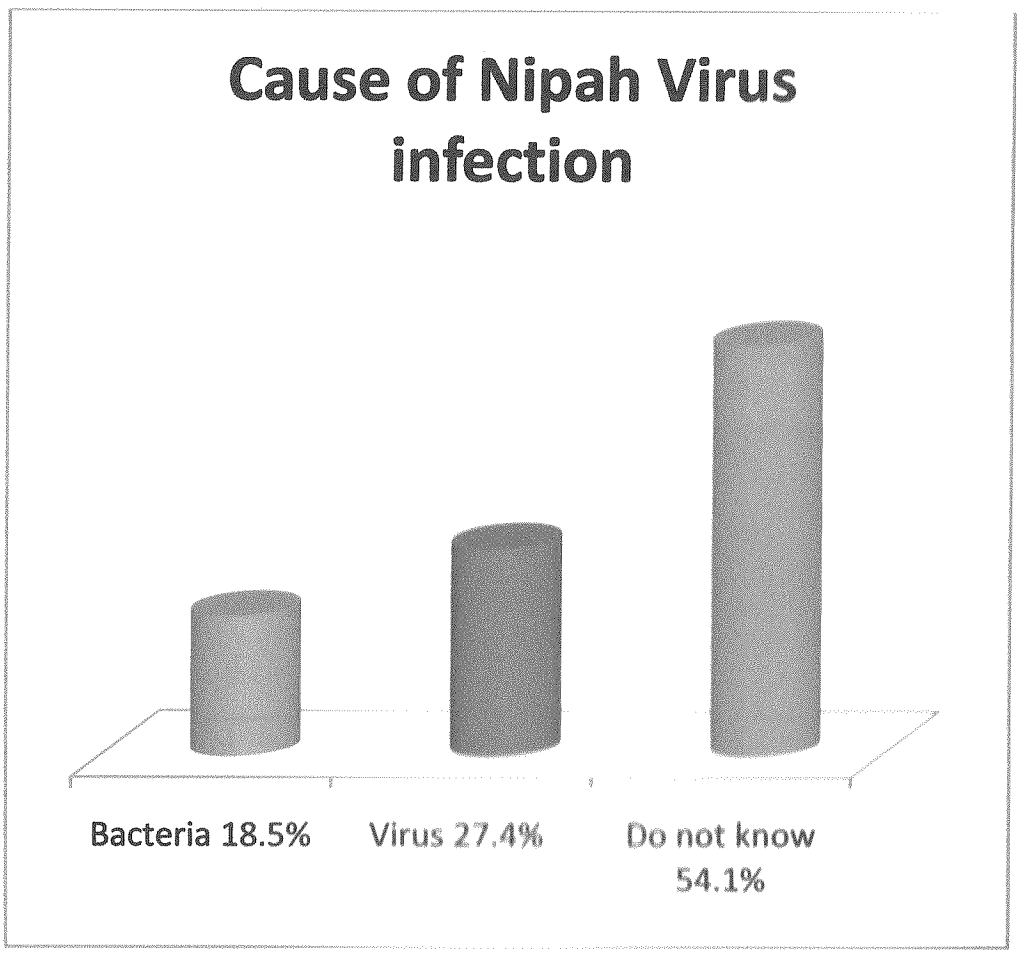
Figure-3: Distribution of the respondents regarding what is Nipah Virus infection.



4.7: Distribution of the respondents regarding cause of Nipah virus infection

Among 146 of the respondents regarding cause of Nipah virus 27 (18.5%) had bacteria, 40 (27.4%) virus and 79 (54.1%) do not know.

Figure-4: Distribution of the respondents regarding cause of Nipah virus infection.



4.8: Distribution of the respondents regarding spread of Nipah virus infection

Among 146 of the respondents regarding spread of Nipah virus infection were 7 (4.8%) juice of date, 6 (4.1%) date if eaten by bat, 1 (.7%) juice of date is eaten by bat, 44 (30.1%) juice of date contaminated by man,3 (2.1%) juice of date is eaten by bat, contaminated by man, 3 (2.1%) jujube / kul boroi, 68 (46.6 %) do not know.

Table-6: Distribution of the respondents regarding spread of Nipah virus infection.

Spread of Nipah virus infection	Frequency	Percent
Juice of Date	7	4.8
Date is eaten by Bat	6	4.1
contaminated by Man	1	.7
Juice of Date,Date is eaten by Bat	44	30.1
Juice of Date ,contaminated by Man	14	9.6
Juice of Date ,Date is eaten by Bat,contaminated by Man	3	2.1
Jujube/Kul Boroi	3	2.1
Do Not Know	68	46.6
Total	146	100.0

4.9: Distribution of respondents regarding clinical feature of Nipah virus infection

Among146 of the respondents regarding clinical feature of Nipah virus infection were 2 (1.4%) said Hyperpyrexia, 4 (2.7%) Difficulty in breathing, 3 (2.1%) Severe Headache, 35 (24.0%) Hyperpyrexia, Severe Headache, 19 (13.0%) Hyperpyrexia, Difficulty in breathing, 19 (13.0%) Hyperpyrexia, Myalgia / Muscle pain, Difficulty in breathing, 5 (3.4%) Hyperpyrexia, Myalgia / Muscle pain, 7 (4.8%) Hyperpyrexia, Difficulty in breathing. Severe Headache, 3 (2.1%) Ulcer in Mouth, 49 (33.6%) Do Not Know.

Table-7: Distribution of respondents regarding clinical feature of Nipah virus infection.

Clinical Feature of Nipah Virus infection	Frequency	Percent
Hyperpyrexia	2	1.4
Difficulty in breathing	4	2.7
Severe Headache	3	2.1
Hyperpyrexia, Severe Headache	35	
Hyperpyrexia, Difficulty in breathing	19	13.0
Hyperpyrexia, Myalgia / Muscle pain, Difficulty in breathing	19	13.0
Hyperpyrexia, Myalgia/Muscle pain	5	3.4
Hyperpyrexia, Difficulty in breathing, Severe Headache	7	4.8
Ulcer in Mouth	3	2.1
Do Not Know	49	33.6
Total	146	100.0

4.10: Distribution of the respondents regarding person risk of Nipah virus infection

Among 146 of the respondents regarding person risk of Nipah virus infection were 50 (34.2%) do not know, 41(28.1%) Middle aged people, 29 (19.9%) all people, 23 (15.8%) child, 2 (1.4%) where jujube and date tree found, 1(.7%) female.

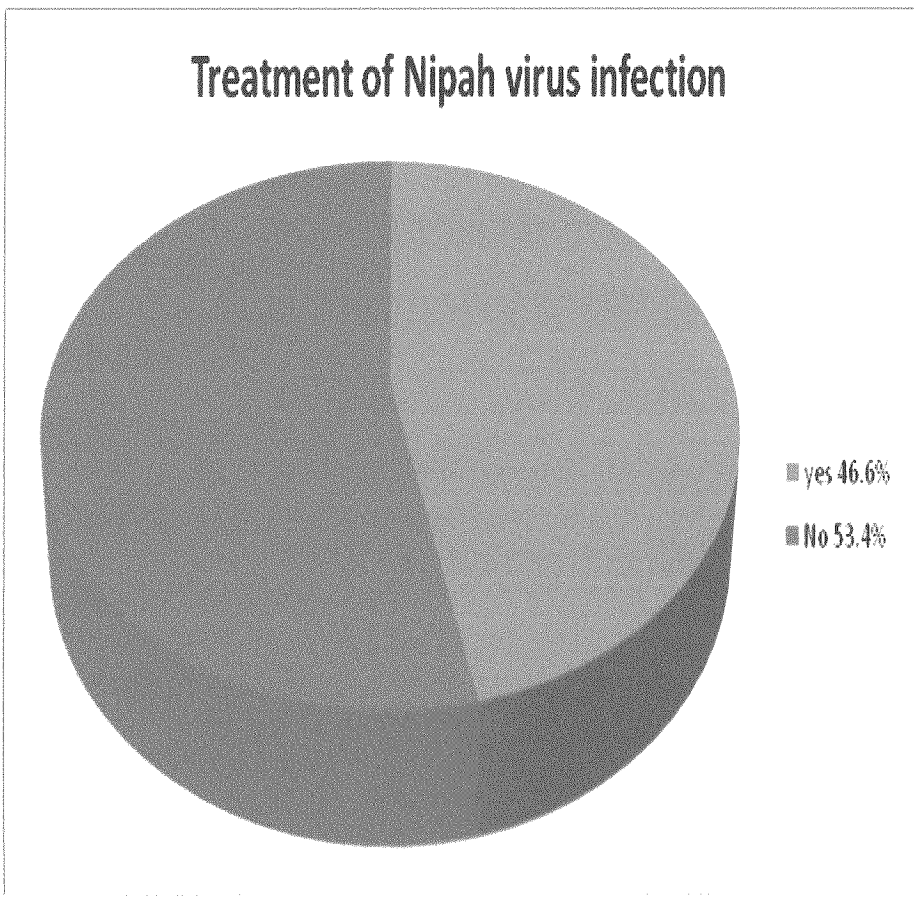
Table-8: Distribution of the respondents regarding person risk of Nipah virus infection.

Person Risk of Nipah virus infection	Frequency	Percent
Do Not Know	50	34.2
Middle aged people	41	28.1
All people	29	19.9
Child	23	15.8
Where Jujube and Date Tree found	2	1.4
Female	1	.7
Total	146	100.0

4.11: Distribution of the respondents regarding treatment of Nipah virus infection

Among 146 of the respondents regarding treatment of the Nipah virus infection yes (46.6%), no (53.4%)

Figure-5: Distribution of the respondents regarding treatment of Nipah virus infection.



4.12: Distribution of the respondents regarding treatment place of Nipah virus infection

Among146 of the respondents regarding treatment place of Nipah virus were (25.3%) Need Hospital Treatment, (9.6%) Push 15 Injections, (6.8%) Isolated from individual, (4.8%) injection, (46.6%) total and missing system (53.4%)

Table-9: Distribution of the respondents regarding treatment place of Nipah virus infection.

Place of treatment of Nipah virus infection	Frequency	Percent
Need Hospital Treatment	37	25.3
Push 15 Injection	14	9.6
Isolated from individual	10	6.8
Injection	7	4.8
Total	68	46.6
Missing System	78	53.4
Total	**146**	**100.0**

4.13: Distribution of the respondents regarding care of Nipah virus patients

About 146 of the respondents regarding care of Nipah virus patients were 37(25.3% (Give good food, 18 (12.3%) Follow Doctor's Advice, 20 (13.7%) Street Food, 18 (12.3%) Use Mosquito Net, 41 (28.1%) Isolated, 12 (8.2%) Do Not Know.

Table-10: Distribution of the respondents regarding care of Nipah virus patients

Care of Nipah virus patients	Frequency	Percent
Give good food	37	25.3
Follow doctor's advice	18	12.3
Street Food	20	13.7
Use mosque nets	18	12.3
Isolated	41	28.1
Do not know	12	8.2
Total	**146**	**100.0**

4.14: Distribution of the respondents regarding Prevention of Nipah virus infection

Among 146 of the respondents regarding Prevention of Nipah virus infection were 55 (37.7%) Taken Fruit by Washing, 1 (.7%) Take TT, 8 (5.5%) Taken Fruit by Washing, Don't take the fruit eaten by Bat, 7 (4.8%) Don't take Rotten food, 72 (49.3%) Do Not Know, 3 (2.1%) Don't take fruit.

Table-11: Distribution of the respondents regarding Prevention of Nipah virus infection

Prevention of Nipah virus infection	Frequency	Percent
Taken Fruit by Washing	55	37.7
Take TT	1	.7
Taken Fruit by Washing, Don't take the fruit eaten by Bat	8	5.5
Don't take Rotten food	7	4.8
Do No't Know	72	49.3
Don't take fruit	3	2.1
Total	**146**	**100.0**

4.15: Distribution of the respondents regarding social activity of Nipah virus infection

Among 146 of the respondents regarding social activity of Nipah virus infection were 63 (4.32%) Awareness, 7 (4.8%) Hygiene Maintain, 21 (14.4%) Mass media Use, 55 (37.7%) Do Not Know.

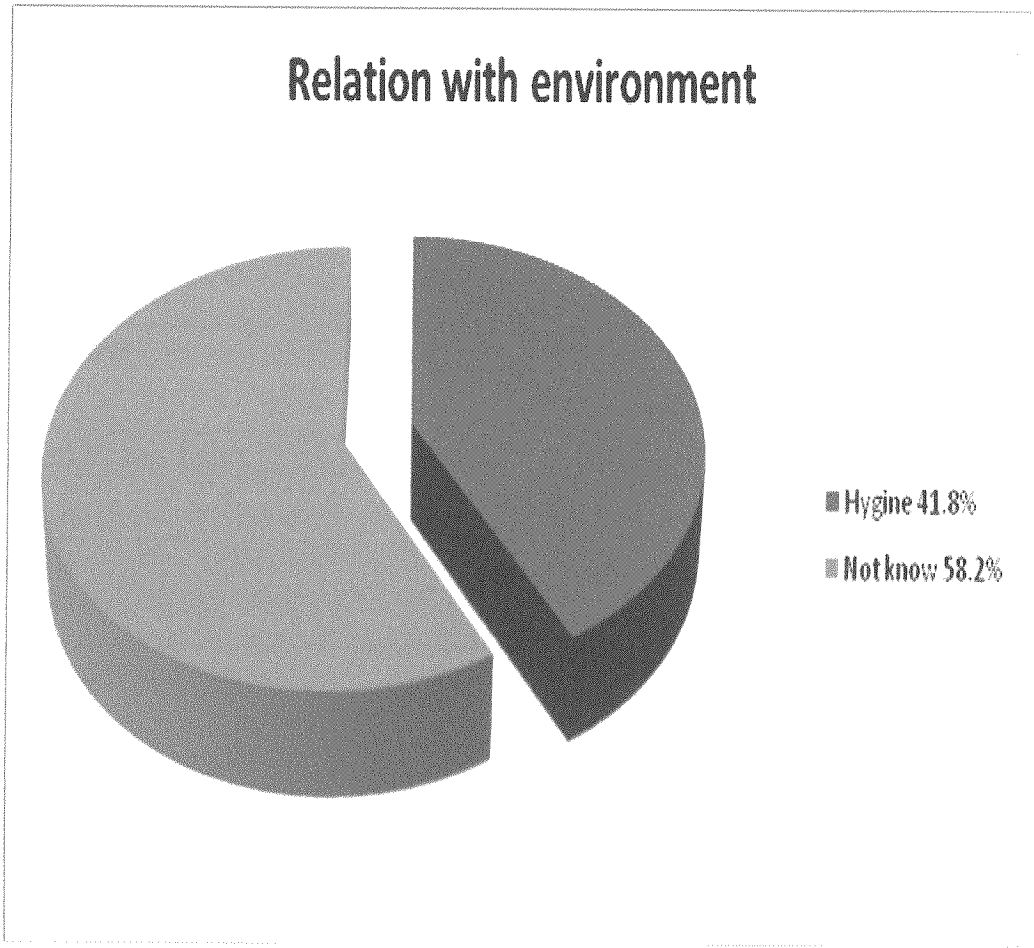
Table-12: Distribution of the respondents regarding social activity of Nipah virus infection.

social activity of Nipah virus infection	Frequency	Percent
Awareness	63	43.2
Hygiene Maintain	7	4.8
Mass media Use	21	14.4
Do Not Know	55	37.7
Total	**146**	**100.0**

4.16:Distribution of the respondents regarding relation with environment of Nipah virus infection

Among146 of the respondents regarding relation with environment of Nipah virus infection were 61 (41.8%) Hygiene and not know 85 (58.2 %.)

Figure-6: Distribution of the respondents regarding relation with environment of Nipah virus infection.



4.17: Distribution of the respondents regarding change food habit of Nipah virus infection

Out 146 of the respondents regarding change food habit of Nipah virus infection were 124 (84.9%). Taken Fruit by Washing, 10 (6.8%). Not know, 12 (8.2%). Taken Fresh Fruit (Not beaten by others).

Table-13: Distribution of the respondents regarding change food habit of Nipah virus infection.

Change Food habit of Nipah virus infection	Frequency	Percent
Taken Fruit by Washing	124	84.9
Not know	10	6.8
Taken Fresh Fruit (Not beaten by others)	12	8.2
Total	**146**	**100.0**

4.18: Association between perception regarding nipah virus infection and sex of the respondents

Among 75 female respondents, majority i.e. 39 (52.0%) had poor perception, 23 (30.7%) had average perception, 13(17%) had good perception. On the other hand among 71male respondents, majority i.e.39 (54.9%) had poor perception, 23 (32.4%) had average perception, 9(12.7%) had good perception regarding nipah virus infection. No statistical significant association was found between sex & perception of nipah virus infection P> 0.05.

Table-14: Association between perception regarding nipah virus infection and sex of the respondents.

Sex	Perception of the respondents			Total f (%)
	Good f (%)	Average f (%)	Poor f (%)	
Male	9 (12.7)	23 (32.4)	39 (54.9)	71 (100.0)
Female	13 (17.3)	23 (30.7)	39 (52.0)	75 (100.0)
Total	22 (15.1)	46 (31.5)	78 (53.4)	146 (100.0)
Significance	χ^2 value=0.62, df =2, p= 0.73			

Among 44 of the respondents of primary level of education22 (50.0%) had poor level of perception 13 (29.5%) average level of perception ,9 (20.5%) had good level of perception. 33 of the respondents of secondary level of education20 (60.6%) had poor level of perception 11 (33.53%) average level of perception ,2(6.1%) had good level of perception. 30 of the respondents of SSC level of education 19 (63.3%) had poor level of perception 8 (26.7%) average level of perception ,3(10.0%) had good level of perception.15 of the respondents of HSC level of education8 (53.3%) had poor level of perception 4 (26.7%) average level of perception ,3 (20.0%) had good level of perception (26.7%) average level of perception ,3 (20.0%) had good level of perception.14 of the respondents of Bachelor level of education5(35.7%) had poor level of perception 4 (28.6%) average level of perception ,5(35.7%) had good level of perception10 of the respondents of Illiterate level of education4(40.0%) had poor level of perception 6 (60.0%) average level of perception ,0 (0.0%) had good level of perception.. . No statistical significant association was found between perception and level of education. (P> 0.05)

Table-15: Association between perception regarding nipah virus infection & level of education of the respondents.

Education	Perception of the respondents			Total f (%)
	Good f (%)	Average f (%)	Poor f (%)	
Primary	9 (20.5)	13 (29.5)	22 (50.0)	44 (100.0)
Secondary	2 (6.1)	11 (33.3)	20 (60.6)	33 (100.0)
SSC	3 (10.0)	8 (26.7)	19 (63.3)	30 (100.0)
HSC	3 (20.0)	4(26.7)	8 (53.3)	15 (100.0)
Bachelor	5 (35.7)	4 (28.6)	5 (35.7)	14 (100.0)
Illiterate	0 (0.0)	6 (60.0)	4 (40.0)	10 (100.0)
Total	**22 (15.1)**	**46 (31.5)**	**78 (53.4)**	146 (100.0)
Significant	χ^2 value = 14.009, df = 10, p = .173			

Among 26 of the respondents of business 11(42.3%) had poor level of perception, 11(42.3%) level of perception average level of perception, 4(15.4%) good level of perception.48 of the respondents of service 28(58.3%) had poor level of perception, 15(31.3%) level of perception average level of perception, 5(10.4%) good level of perception. 1 of the respondents of Day labor 1(100.0%) had poor level of perception, 0(0.0%) level of perception average level of perception, 0(0.0%) good level of perception.7 of the respondents of Farmer 5(71.4%) had poor level of perception, 1(14.3%) level of perception average level of perception, 1(14.3%) good level of perception.8 of the respondents of Student 4(50.0%) had poor level of perception, 3(37.5%) level of perception average level of perception, 1(12.5%) good level of perception. 56 of the respondents of Housewife 29(51.8%) had poor level of perception, 16(28.6%) level of perception average level of perception, 11(15.1%) good level of perception. No statistical significant association was found between perception and level of education. (P> 0.05)

Table-16: Association between perception regarding nipa virus infection & occupation of the respondents.

Occupation	Perception of the respondents			Total f (%)
	Good f (%)	Average f (%)	Poor f (%)	
Business	4 (15.4)	11 (42.3)	11 (42.3)	26 (100.0)
Service	5 (10.4)	15 (31.3)	28 (58.3)	48 (100.0)
Day Labor	0 (0.0)	0 (0.0)	1 (100.0)	1 (100.0)
Farmer	1 (14.3)	1 (14.3)	5 (71.4)	7 (100.0)
Student	1 (12.5)	3 (37.5)	4 (50.0)	8 (100.0)
Housewife	11 (19.6)	16 (28.6)	29 (51.8)	56 (100.0)
Total	22 (15.1)	46 (31.5)	78 (53.4)	146 (100.0)
Significant	χ^2 value = 5.534, df = 10, p = .853			

4.21: Association between the perception regarding nipah virus infection and age group of respondents

Analysis of the above table indicated that of good level of perception was found among the age group 18-25 (50%) average level of perception was found among the age group 25-30 (44%) poor level of perception was found among the age group 31-40 (42%).

Table-17: Association between the perception regarding nipah virus infection and age group of respondents.

Age Group	Perception of the respondents			Total f (%)
	Good f (%)	Average f (%)	Poor f (%)	
18-25	3 (6.0)	17 (34.0)	30 (60.0)	50 (100.0)
25-30	7 (15.9)	13 (29.5)	24 (35.5)	44 (100.0)
31-40	7 (16.7)	13 (31.0)	22 (52.4)	42 (100.0)
41-50	5 (50.0)	3 (30.0)	2 (20.0)	10 (100.0)
Total	22 (15.1)	46 (31.5)	78 (53.4)	146 (100.0)
Significant	χ^2 value = 13.597, df = 6, p = .034			

4.22: Association between respondents between nipah virus infection and income of the participant

Analysis of the above table indicated that of good level of perception was found among the income group 5000-15000 (89%) average level of perception was found among the income group 16000-25000 (41%) poor level of perception was found among the income group 26000-35000 (12%).

Table-18: Association between respondents between nipah virus infection and income of the participant.

Income	Perception of the respondents			Total f (%)
	Good f (%)	Average f (%)	Poor f (%)	
5000-15000	9 (10.1)	29 (32.6)	51 (57.3)	49 (100.0)
16000-25000	8 (19.5)	12 (29.3)	21 (51.2)	41 (100.0)
26000-35000	3 (25.0)	5 (41.7)	4 (33.3)	12 (100.0)
36000-45000	1 (50.0)	0 (0.0)	1 (50.0)	2 (100.0)
46000-55000	1 (50.0)	0 (0.0)	1 (50.0)	2 (100.0)
Total	22 (15.1)	46 (31.5)	78 (53.4)	146 (100.0)
Significant	χ^2 value = 8.967, df = 8, p = .345			

CHAPTER 5: DISCUSSION

The study reveals that majority of the respondents perception regarding nipah virus infection is poor. About 80% of the people live in rural community of village. And they are more or less vulnerable to nipah virus infection because most of them are illiterate. They do not know the source, mode of transmission, sign symptoms, and effect of nipah virus infection.

In this study majority of the respondent are female (51.4%) and the rest of them are male (48.6%). About (30.1%)of the respondents had primary level of education following (22.6%) had secondary, (20.5%) had SSC, (10.3%) had HSC, (9.6%) had bachelor, and (6.8%) had illiterate. So most of the respondents had primary level of education.

About 146 of the respondents 26 (17.8%) had business, 48 (32%) had service, 1 (.7%) had day labor, 7 (4.8%) had farmer, 8 (5.5%) had student and 56 (38.4%) house wife. So in this study most of the respondents are housewife.

About 146 of the respondents 143 (97.9%) were Muslim and 3 (2.1%) Hindu.

About 146 of the respondents most of the peoples monthly family income had ranging from 5000-15000 that is 89 (61.0 %) followed by 16000-25000 had 41(28.1%), ranging from 26000-35000 had 12 (8.2%), ranging from 36000-45000 had 2 (1.4%) and ranging from 46000-55000 had 2 (1.4%). The mean family income of the respondents was TK.1.54+.815

Among 146 of the respondents majority of the respondents family member that was 90 (61.6%) had 2-4 family member, 50 (34.2%) had 5-7

family member, 4 (2.7%) had 8-10 and 2(1.4%) had 11-15 family member. The mean family member of the respondents was 4.52+1.828.

Among 146 of respondents 50 (34.2%) had 18-25 age group, 44 (30.1%) had 25-30 age group, 42 (28.8 %) had 31-40 age group, 10 (6.8%) had 41-50 age group. The mean age of the respondents was 29.38 years.

Among 146 of the respondents 64 (43.8%) were know that nipah virus is a communicable disease and 82 (56.2%) do not know.

Among 146 of the respondents know regarding cause of Nipah virus 27 (18.5%) had bacteria, 40 (27.4%) virus and 79 (54.1%) do not know.

Among 146 of the respondents regarding spread of Nipah virus infection were 7 (4.8%) juice of date,6(4.1%) date if eaten by bat, 1 (.7%) juice of date is eaten by bat,44(30.1%) juice of date contaminated by man, 3 (2.1%) juice of date is eaten by bat, contaminated by man, 3(2.1%) jujube/kulboroi, 68 (46.6 %) do not know.

Among 146 of the respondents regarding clinical feature of Nipah virus infection were 2 (1.4%) said hyperpyrexia, 4 (2.7%) difficulty in breathing,3 (2.1%) severe headache, 35 (24.0%) hyperpyrexia, severe Headache, 19 (13.0%) hyperpyrexia, Difficulty in breathing, 19 (13.0%) hyperpyrexia, myalgia / muscle pain, difficulty in breathing, 5 (3.4%) hyperpyrexia, myalgia / Muscle pain, 7 (4.8%) hyperpyrexia, difficulty in breathing. Severe headache, 3 (2.1%) ulcer in mouth, 49 (33.6%) do not know.

Among 146 of the respondents regarding person risk of Nipah virus infection were 50 (34.2%) do not know, 41 (28.1%) middle aged people,

29 (19.9%) all people, 23 (15.8%) child, 2 (1.4%) where jujube and date tree found, 1 (.7%) female.

Among 146 of the respondents regarding treatment of the Nipah virus infection yes (46.6%), no (53.4%)

Among146 of the respondents regarding treatment place of Nipah virus were (25.3%) need hospital treatment, (9.6%) Push 15 injections, (6.8%) isolated from individual, (4.8%) injection, (46.6%) total and missing system (53.4%)

About 146 of the respondents regarding care of Nipah virus patients were 37 (25.3%) (Give good food, 18 (12.3%) follow doctor's advice, 20 (13.7%) street food, 18 (12.3%)use mosquito net, 41 (28.1%) Isolated, 12 (8.2%) do not know.

Among 146 of the respondents regarding Prevention of Nipah virus infection were 55(37.7%) Taken Fruit by Washing, 1 (.7%) Take TT,8 (5.5%) Taken Fruit by Washing, Don't take the fruit eaten by Bat,7 (4.8%) Don't take Rotten food, 72(49.3%) Do Not Know, 3 (2.1%) Don't take fruit.

Among 146 of the respondents regarding social activity of Nipah virus infection were 63 (4.32%) Awareness, 7 (4.8%) Hygiene Maintain, 21 (14.4%) Mass media Use, 55 (37.7%) Do Not Know.

Among146 of the respondents regarding relation with environment of Nipah virus infection were 61 (41.8%) Hygiene and not know 85 (58.2 %.) Out 146 of the respondents regarding change food habit of Nipah virus infection were 124 (84.9%). Taken Fruit by Washing, 10 (6.8%). Not know, 12 (8.2%) Taken Fresh Fruit (Not beaten by others).

Among 75 female respondents, majority i.e. 39 (52.0%) had poor perception, 23 (30.7%) had average perception, 13 (17%) had good perception. On the other hand among 71male respondents, majority i.e.39 (54.9%) had poor perception, 23 (32.4%) had average perception, 9 (12.7%) had good perception regarding nipah virus infection. No statistical significant association was found between sex & perception of nipah virus infection. P> 0.05.

Among 44 of the respondents of primary level of education 22 (50.0%) had poor level of perception 13 (29.5%) average level of perception ,9 (20.5%) had good level of perception. 33 of the respondents of secondary level of education 20 (60.6%) had poor level of perception 11 (33.53%) average level of perception, 2(6.1%) had good level of perception. 30 of the respondents of SSC level of education 19 (63.3%) had poor level of perception 8 (26.7%) average level of perception, 3 (10.0%) had good level of perception.15 of the respondents of HSC level of education8 (53.3%) had poor level of perception 4 (26.7%) average level of perception ,3 (20.0%) had good level of perception (26.7%) average level of perception, 3 (20.0%) had good level of perception. 14 of the respondents of Bachelor level of education 5 (35.7%) had poor level of perception 4 (28.6%) average level of perception, 5 (35.7%) had good level of perception10 of the respondents of Illiterate level of education 4 (40.0%) had poor level of perception 6 (60.0%) average level of perception, 0 (0.0%) had good level of perception. No statistical significant association was found between perception and level of education. (P> 0.05)

Among 26 of the respondents of business 11 (42.3%) had poor level of perception, 11 (42.3%) level of perception average level of perception, 4 (15.4%) good level of perception. 48 of the respondents of service 28 (58.3%) had poor level of perception, 15 (31.3%) level of perception average level of perception, 5 (10.4%) good level of perception. 1 of the respondents of Day labor 1 (100.0%) had poor level of perception, 0 (0.0%) level of perception average level of perception, 0 (0.0%) good level of perception. 7 of the respondents of Farmer 5 (71.4%) had poor level of perception, 1 (14.3%) level of perception average level of perception, 1 (14.3%) good level of perception.8 of the respondents of Student 4 (50.0%) had poor level of perception, 3(37.5%) level of perception average level of perception, 1 (12.5%) good level of perception. 56 of the respondents of Housewife 29(51.8%) had poor level of perception, 16(28.6%) level of perception average level of perception, 11(15.1%) good level of perception. No statistical significant association was found between perception and level of education. ($P > 0.05$)

Analysis of the above table indicated that of good level of perception was found among the age group 18-25 (50%) average level of perception was found among the age group 25-30 (44%) poor level of perception was found among the age group 31-40 (42%).

Analysis of the above table indicated that of good level of perception was found among the income group 5000-15000 (89%) average level of perception was found among the income group 16000-25000 (41%) poor level of perception was found among the income group 26000-35000 (12%).

6.1 CONCLUTION

Nipah virus infection occurs mainly in winter season in Bangladesh. A little consciousness and education could save many people life. In rural community people are not much educated; as a result they become the victim of this deadly infection. In this study majority of the respondents were female and the rest of them were male. Most of the respondents had primary level of education. Majority of the respondents were housewives. All most all of them were Muslim. Most of the respondents monthly family income was poor. Majority of the respondents family member was two to four persons. And they were young age group. Among all of the respondents most of the people had no perception that Nipah virus infection is a communicable disease. Most of the respondents had no perception regarding cause of Nipah virus infection only few people know that this infection is due to virus. Majority of the respondents regarding spread of Nipah virus infection had no perception; regarding clinical feature most of them had no perception. Majority had no perception regarding high risk group of Nipah virus infection, most of the respondents had no perception regarding treatment, treatment place and few respondents had no perception regarding care of Nipah virus infection. Regarding prevention of Nipah virus infection majority opined about fruits intake by washing, most of them told that raising social awareness can prevent Nipah virus infection and most of the respondents had no perception regarding relation with environment. Majority had the perception that Nipah virus infection can be prevented by changing food habit. Among all respondents majority had poor perception followed by average and few had good perception. Out of all respondents having primary level education majority had poor perception followed by average perception and only few of them had good perception regarding nipah virus infection. There is no statistical significance

between education and perception of Nipah virus infection. Majority of housewives had poor level of perception followed by average and rest of them had good perception. There is no statistical significance between housewives and perception of Nipah virus infection. The study revealed that majority of the age group young had poor perception followed by average and rest of them had good level of perception. This difference was statistically significant. Majority of the minimum income group had poor perception followed by average perception and rest of them had good perception. This difference was not statistically significant. By this study we made a conclusion that health education through various media is necessary to increase perception of rural people regarding Nipah virus infection.

RECOMMENDATION

6.2 Recommendation:

On the basis of this study following suggestion for achieving better perception, awareness regarding Nipah virus infection of a rural community.

- Out of all respondents majority of them were female, and they were illiterate and primary of level of education, and they were house wives. Their level of perception regarding Nipah virus infection was poor. To improve their perception level of education should be improved.
- About the occurrence of Nipah virus infection majority of the respondents did not know .Basic health education about the occurrence of Nipah virus infection develops better perception.
- The study revealed that comparatively more educated respondents knew regarding treatment of Nipah virus infection .So the level of education should be improved and also improved mass media intervention.
- Regarding prevention of Nipah virus infection majority of the respondents told that taken food by washing .So mass media, newspaper, recently satellite channels have great role in creating awareness and dissemination of perception.

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