Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act, 1956)
(Vide Notification No. F.9-5/2000 - U.3, Ministry of Human Resource Development, Govt. of India, dated 4th July 2002)
Accredited by NAAC
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
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Chennai - 600 073. Tamil Nadu.

Ref. No.SMS-2018-O-06

Date: 06.02.2020

TO

Ms. Swathi
Assistant Professor/Microbiology
BIHER

BHARATH INSTITUTE OF HIGHER EDUCATION & RESEARCH
(Declared as Deemed to be University U/S 3 of UGC Act, 1956)
06 FEB 2020
OFFICE OF THE DEAN-RESEARCH
Selaiyur, Chennai-600 073. (INDIA

Thro: Concern Head of the Department

Greetings!!!

We are happy to announce that the Research Advisory Committee has approved your proposal for Seed Money Scheme-2018 which was presented by you. You are requested to complete the proposal and send the progress report to the Dean Research in the prescribed time period.

Title of the Project: Current Scenario of Nipah virus

Seed Money Amount: Rs.1, 00,000/- (Rupees One Lakh Only)

Approved on: 03.02.2020

Payment details:

Voucher No.61 **Dated: 12.02.2020**

With Regards

Dean-Research

Bharath University

SELAIYUR, CHENNAI - 600 073, TAMIL NADU, INDIA.

CASH / PAYMENT VOUCHER

Date 12/02/2020

V.No. 61

Debit _____ Amount

Rs. 1,00,000/-

PAID TO Dr. S. Swathi

RUPEES One lakh only

TOWARDS Seed Money Scheme-2018

BHARATH UNIVERSITY CHENNAI 600 073 INDIA

Authorised by **Finance Manager** **Cashier/Accountant** **Payee's Signature**

PROPOSAL SUBMISSION

1. **Details of Principal Investigator**

Name	: Dr. S. Swathi
Designation	: Assistant Professor
Highest Qualifications	: M. Sc.,
Department	: Microbiology
E-mail	: swathi.mmb@gmail.com
Contact no	: 9047727660
Date of Joining	: 05.05.2015

2. **Details of Principal Investigator**

Name	: Dr. C. Naveen Kumar
Designation	: Associate Professor
Highest Qualifications	: Ph.D.
Department	: Microbiology
E-mail	: navin.mmb@gmail.com
Contact no	: 9047765601
Date of Joining	: 13.04.2013

Technical details

1. Introduction

The first case of Nipah virus (NiV) infection was initially reported in September 1998 near Ipoh, West Malaysia. Over the several months, several clusters of infections were reported over various regions such as near Sikamet and Bukit Pelandok [1]. Four patients were tested primarily, assumed to be Japanese B Encephalitis was shown positive. Many of them died, the assessed victims were reports of sick pigs with a barking cough. The clinical conditions of Nipah virus were not typical of Japanese B Encephalitis [2- 3]. The virus was first isolated and classified based on its appearance at March 1999 and grouped in a Paramyoviridae virus [4]. The second outbreak occurred in India 2001 in Meherpur, Bangladesh, and Siliguri, West Bengal, India. Laboratory investigations were failed to properly identify the organisms. After several decades, the outbreak in 2014, the Philippines National Epidemiology Center was screened the causative agent of deaths in Mindanao, Philippines. The investigation was found positive for antibodies IgM against NiV in 03 patients. A fatality rate about 53% was observed during that particular outbreak in Philippines and 82% had acute encephalitis were reported [5]. Last year at May 2018, a major outbreak of NiV was reported in the south India state of Kerala. The epidemic spread through human-to-human transmission by droplet infection. About 17 deaths by NiV were announced by the State of Kerala at the end of June 2018 [6]. The National Centre for Disease Control India (NCDC) stated that a suspected case of a person from a community affected by a NiV infection, based on the following clinical conditions, such as; a) Acute Fever with new onset of altered mental status or seizure and/or b) Acute Fever with severe headache and/or c) Acute Fever with Cough or shortness of breath A confirmed case based on the laboratory investigations of Nipah infection by polymerase chain reaction (PCR). Various samples were tested such as respiratory secretions (throat swab), urine and cerebrospinal fluid [7]. Current decade threatens about the NiV, according to the Centers for Disease Control and Prevention (CDC) many economically privileged countries had more chance of spread of this disease due to the limited resources and infrastructure and to prevent. To avoid major fatality rate by proper understanding of the previous outbreaks and setting up of appropriate protocols which can helps to protect against future occurrences of NiV. The outbreaks of historical review of the NiV for past several decades explained.

2. Review of status of Research and Development in the subject

World Health Organization. WHO publishes list of top emerging diseases likely to cause major epidemics. 2005. http://www.who.int/medicines/ebola-treatment/WHO-list-of-top-emerging-diseases/en/. Accessed August 17, 2018.

According to literature, since 1980 only 87 out of 1399 human pathogens have been found to infect humans directly while majority of them initially infect other susceptible animals which further spread the infection to humans.2 Nipah virus (NiV) is very notorious zoonotic type

of pathogen, which belongs to genus *Henipavirus* of the family *Paramyxoviridae*.3 NiV causes great spectrum of disease from mild to life-threatening encephalitis or fatal respiratory illness in humans and animals.4 NiV was reported for the first time from Malaysian population in 1998.3, 4, 5, 6 In March 1999, a team of eminent virologists from the University of the Malaya isolated a virus from sample of a patient from Sungai Nipah (Nipah River Village) and named it as NiV.6, 7, 8 Antigenic, serological, and detailed molecular characterization of this newly isolated virus showed cross reaction with antibodies to the Hendra virus (HeV), the other member of genus *Henipavirus*. Further sequencing studies revealed that it is a new type of Paramyxovirus and is about 20% different from HeV in nucleotide homology

2.1. International Status:

The recent pandemic threat posed by the viral pathogens such as Coronovirus, Influenza virus etc. implies that disease emergence and spread are not limited by geographical boundaries. In many cases the animals are found to be the source of infection for human infection. Only 87 out of 1,399 human pathogens have been first reported in humans in the years since 1980. India's fast-growing human population and resulting increasing animal-human interactions, combined with changing environmental conditions and inadequate sanitation and regulation, have made India one of the world's top hotspots for livestock diseases, including zoonotic diseases—those that pass from animals to humans and which make up 75 % of all human diseases. Controlling zoonoses is particularly important in developing countries, where the absolute burden of these diseases is up to 130 times greater than in developed countries. Emerging zoonoses are the product of socioeconomic and anthropogenic environmental changes. Expansion of road networks, development of agricultural land, and intensification of wildlife trade have caused novel pathogens to emerge from wildlife, Nipah virus (NiV) is one of the best examples of the emerging zoonoses.

2.2. National Status:

NIL

3. Progress/ achievement so far, if any

a). Reference papers was collected.
b). Literature survey was studied.
c). Materials and methods were designed.

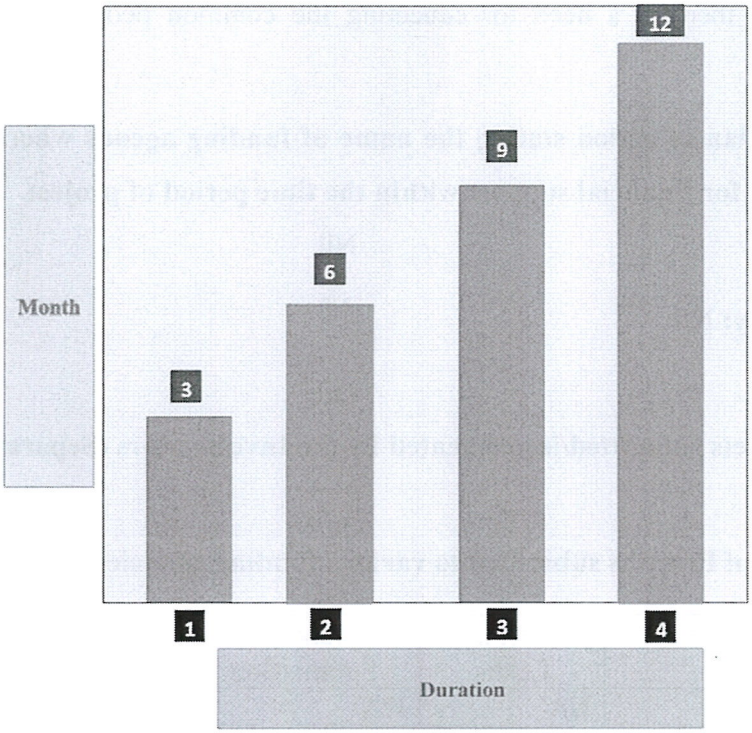
4. Work plan

4.1 Methodology

The present article based on collective study of previous publications about NiV reviews on Google Scholar. This study explains the consolidate details about the NiV. NIPAH Virus? The history of NiV starts from March 1999; University of Malaysia first carried out analysis of the virus. The virus was isolated and studied from the cerebrospinal fluid sample of a patient suffering from encephalitis. The name origination of the Nipah virus was proposed from the location of the Kampung Sungai Nipah at Malaysia, were the first source of the sample obtained [4]. Nipah virus characteristic were similar to Paramyxoviridae virus, it has been identified by electron microscopy. The antibody activity of the other Paramyxovirus, were shown to be negative reactivity to NiV. NiV was seen circular, pleomorphic about 1900 nm with various proteins such as Matrixprotein (M), Polymersaeprotein (L), Glycoprotein (G), Fusionprotein (F), Nucleoprotein (N) and Phosphoprotein (P). The pleomorphic factors help to change the spherical to filamentous form. Two major strains were one at NiV Malaysia and another one at NiV Bangladesh [8].

Transmission of NIV? The main reservoir of NiV is Pteropus, Fruit bats [9-11]. The investigations surprise was the infected bats have not shown any symptoms of the disease by NiV. Greater than 23 species of fruit bats have been found to be reservoirs of NiV. The infected fruit bats were act as a host for the virus and which naturally infects the dogs, horses, pigs, cats, including humans [5, 12]. Urine or saliva of the infected host was considering the mode of transmission. Other than the fruit bat guinea pigs, ferrets, and African green monkeys are also act as host for NiV. NiV had a special character such as ephrin B2/B3 molecules which helps the virus to enter the host cell in a wide tropism, while comparing the other paramyxoviruses [13]. Humans were infected by bats to human through an intermediate animal host or direct bat-to-human transmission. Bangladesh and India of several outbreaks reveals the Human-to-human transmissions cases [14-15].

4.2 Time Schedule of activities giving milestones through BAR diagram. (Maximum of 1/2 pages)



S. No	Activity/ mile stolen	1st Year			
1	Literature review	**1-3 month**			
2	Analysis of existing work	-	**4-6 month**		
3	Designing & work initiated	-	-	**7-9 month**	
4	Statistics & Discussion with results	-	-	-	**10-12 month**

4.3 Expected outcome within the time period of See Money Scheme

According to the current scenario both developed and developing countries NiV had a major outbreak with high mortality rate. However, Prevention and with proper education about the NiV which prevent the future outbreaks and mortality of the human kind. The key to controlling the outbreak and reducing mortalities is early detection of the outbreak and installing preventive measures as soon as possible. There is a need to have active inter-institutional and international

coordination among human-animal virologists as well as virologists and ecologists to fully understand how and when the bats excrete the virus. Simultaneously there is also a need for educating the common people about personal and food hygiene. There is a need to have active inter-institutional and international coordination among human-animal virologists as well as virologists and ecologists to fully understand how and when the bats excrete the virus. Simultaneously there is a need for educating the common people about personal and food hygiene.

5. Suggested Plan of action stating the name of funding agency where the project will be communicated for financial support within the time period of project.

Nil

6. Bibliography: Nil

Nil

7. List of Projects submitted/implemented by the Investigators (Separate for Pi and Co-PI)

7.1 Details of Projects submitted to various funding agencies:

S.No	Title	Cost in Lakhs	Month of Submission	Role as PI/Co-PI	Agency	Status
1	NA	NA	NA	NA	NA	NA

7.2 Details of Projects under implementation

Sl. No.	Title	Cost in lakhs	Duration	Role as PI/ Co-PI	Agency
1	NA NA	NA	NA	NA	NA

7.3 Details of Projects completed during the last 5 years

Sl. No.	Title	Cost in lakhs	Duration	Role as PI/ Co-PI	Agency
1	NA	NA NA	NA	NA	NA

8. List of publications published by the Investigators, if any:

a) Principal Investigator

S. No	Author names	Title of paper	Name of Journal	Vol (Issue)	Page No.	Year
1.	Kishor Kumar .C1, Vijaya Kumar .R2, Naveen Kumar .C3, **Swathi .S4***	Diuretic Activity Of Methanolic Extract Of Leaves Of Pedalium murex L	International Journal of Biology, Pharmacy and Allied Sciences	10(1)	X-X	2021
2.	**Swathi. S1**, Naveen kumar. C2, Abarna. V3, Jayapradha. S4, Srikumar. R5	Screening of Chlamydia trachomatis Infection among Childbearing Age Group Women in a Tertiary Center in South India	Indian Journal of Public Health Research & Development	9(9)	77-81	2018
3.	**1Swathi.S***, 2Naveen Kumar.C, 3Abarna. V, 4Jayapradha. S, 5Kamatchi. S	Prevalence of Intestinal Parasites in a Tertiary Care Hospital in Rural Puducherry	Journal of Current Trends in Clinical Medicine & Laboratory Biochemistry	3(3)	16-21	2017
4.	S Ayyappan, Sachu Philip, N Bharathy, V Ramesh, C Naveen Kumar, **S Swathi**, A Arun Kumar	Antioxidant status in neonatal jaundice before and after phototherapy	Journal of pharmacy & Bioallied sciences	7(1)	S16-19	2015
5.	KP Shiva Govindan, Saleem Basha, V Ramesh, C Naveen Kumar, **S Swathi**	A comparative study on serum lipoprotein (a) and lipid profile between rheumatoid arthritis patients and normal subjects	Journal of Pharmacy & Bioallied Sciences	7(1)	S22-25	2015
6.	Jayaranjani.K Jayarani.K, Sandhyarani.T, Naveen Kumar's, **Swathi.S**	Detection of MBL Producing Pseudomonas aeruginosa in Tertiary Care Hospital, Pondicherry	International Journal of Recent Scientific Research	5(8)	1460-1463	2014

9. Budget

SI. No	Head	Amount (Rs.)
1	BP Apparatus, Stethoscopes, Body weight weighing machine, SPSS version 16 Chicago, IL, USA, ECG machine	45000
2	Consumables (gels bottles, cotton, sprit, testing charges, tools, etc.)	10000
3	Travel support for the purpose of research work.	10000
4	Contingency	25000
5	Other's consumables	10000
	Total	**1,00,000**

*In case of any joint proposal for purchasing a same equipment, each of the associated PLs is also required to give separate budget (without any clubbing) to avoid any ambiguity, if all the associated projects are not awarded by committee.

10. Name of at least two subject experts from the Institute and one from the outside Institute with their contact details:

1. **Dr. Florida,** Research Scientist, Sree Balaji Medical College and Hospital, Chennai **Mobile No**: 9940027169 **E-mail id:** biozonediagnostic@gmail.com	2. **Dr. Suba,** Professor in Microbiology, Rela Transplantation Institute, Chennai **Mobile No**: 9962526457 **E-mail id:** subamicro@gmail.com

CERTIFICATE FROM THE INVESTIGATOR

Project Title: Current Scenario of Nipah Virus: A Review

It is certified that

1. I do hereby agree to submit a complete proposal for financial support to the external funding agency within the time period of SMS-2018.
2. I undertake that spare time on equipment procured in the project will be made available to other users.
3. I agree to submit a certificate from Institutional Biosafety Committee, if the project involves the utilization of genetically engineered organisms. I also declare that while conducting experiments, the Biosafety Guidelines of Department of Biotechnology, Department of Health Research, GOI would be followed in to.
4. I agree to submit ethical clearance certificate from the concerned ethical committee, if the project involved field trails/experiments/exchange of specimens, human & animal materials etc.
5. I agree to abide by the terms and conditions of SMS-2018, BIHER, and Chennai.

Name and signature of
Principal Investigator

Name and signature of
Co-Principal Investigator

Date: 04.01.2020
Place: Pondicherry

Forwarded by Head of the Department

Signature of the Head

DEAN
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES
OSUDU, AGARAM VILLAGE,
KOODAPAKKAM POST,
PUDUCHERRY - 605 502

PROJECT EVALUATION FORMAT

Recommendation sheet

Name of the Principal Investigator	DR. S. Swathi
Name of the Co-Principal Investigator	Dr. C. Naveenkumar
Name of the Department	Microbiology
Title of project	Current Scenario Of Nipah Virus: A Review
Recommendation of the evaluation committee (Recommended/Revision/Not Recommended)	RECOMMENDED
Financial allocation recommended	Rs 1,00,000/-

SI. No.	Head	Amount
1	BP Apparatus, Stethoscopes, Body weight weighing machine, SPSS version 16 Chicago, IL, USA, ECG machine	45000
2	Consumables- Gel bottles, cotton, sprit, testing charges, tools, etc.	10000
3	Travel support for the purpose of research work.	10000
4	Contingency	25000
5	Others consumables	10000
	Total	**1,00,000**

Name and Signature of the Research Advisory Committee members with date

Internal Quality Assurance Cell IQAC Pondicherry-02 SLIMS

Dr. K. BALAGURUNATHAN