



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)



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173, Agaram Road, Selaiyur, Tambaram,
Chennai - 600 073. Tamil Nadu.

Ref. No.SMS-2015-O-05

Date: 17.08.2016

TO

Ms. Swathi
Assistant Professor/Microbiology
BIHER



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-2015 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: Prevalence of Intestinal Parasites in a Tertiary Care Hospital in Rural Puducherry

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

Approved on: 10.08.2016

Payment details:

Voucher No.26

Dated: 25.08.2016

With Regards

Dean-Research

Bharath University

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

CASH / PAYMENT VOUCHER

Date 25/08/2016

V.No. 26

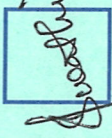
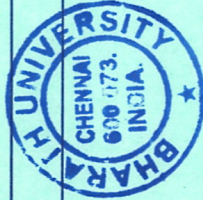
Debit _____ Amount _____

Rs. 1,00,000/-

PAID TO Dr. S. Swathi

RUPEES One Lakh only

TOWARDS Good Money Scheme - 2015



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:

Intestinal parasitic infections are one of the major health problems in several developing countries including India. [1] They constitute the greatest universal cause of morbidity and mortality. It is estimated that 60% of the world population is infested with enteric parasites. [2]

Moreover, certain environmental factors such as pollution, global warming and the tropical hot, and humid weather conditions also contribute to disease. Consequently, the epidemiological pattern of the parasite varies with geographic location. The most common parasitic infestations reported globally are *Ascaris* (20%), *Ancylostoma duodenale* (18%), *Trichuris trichiura* (10%), and *Entamoeba histolytica* (10%). [7] The WHO estimates that approximately 50 million people worldwide endure insidious amoebic infection, resulting in 40-100 thousand yearly deaths. Current estimates suggest that *Ascaris lumbricoides* can infest more than 1 billion and *T. trichiura* and hookworms can infest 795 and 740 million people, respectively. [8] In India, overall prevalence rate of intestinal parasitic infestation ranges from 12.5% to 66%, with varying prevalence rate for individual parasite. [9] Studies reporting the overall parasitic load in the state of Puducherry have been scanty, whereas a study related particularly to soil transmitted helminths (STHs) among school children in Puducherry have been published in the recent past. [10-12] The most important drawback of intestinal parasitic infestations is that about 90% infected individuals remain asymptomatic [13]. Therefore, a retrospective study was undertaken by the Department of Medicine and Microbiology, Sri Lakshmi Narayana Institute of Medical Sciences, BIHER University, whereby all symptomatic patients from Medicine Outpatient Department (OPD) were referred to Microbiology Department for routine stool examination to detect the intestinal parasites in that population. The study also aims to analyze the prevalence rate of multiple parasitic infestations in this community.

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

Dhanabal J, Selvadoss PP, Muthuswamy K. Comparative study of the prevalence of intestinal parasites in low socioeconomic areas from South Chennai, India. *J Parasitol Res* 2014; 2014:1-7.

In a guideline by the US Department of Health, 2013, it is suggested that the people from developing countries of Asia, Africa, and others are highly susceptible to parasitic infestations, but among them, STH is the most important and to be looked after seriously as they lead to significant illness and even death. [21] Overall, our study included examination of stool specimens of 2194 persons, inclusive of both sexes age group of 05 - 80 years. These patients had some clinical signs and symptoms raising the suspicion that they might be suffering from gastrointestinal parasitic infestations. They all attended the Medicine Outpatient Department of our Medical College and were referred from there to the Microbiology Department for examination of stool, detection of ova, and cysts and adult forms of different infesting parasites.

2.1. International Status:

The WHO estimates that one person in every four harbors parasitic worms.[3] Intestinal parasitic infections persist and flourish wherever poverty, inadequate sanitation, insufficient health care, and overcrowding are entrenched.[4] The prevalence of parasitic diseases depends on environmental, social, and economic factors. [5] Poverty, illiteracy, high population density, proximity with animals, and poor hygiene conditions along with unavailability of safe and potable water attribute to the higher prevalence of intestinal parasites in developing nations. [6]

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

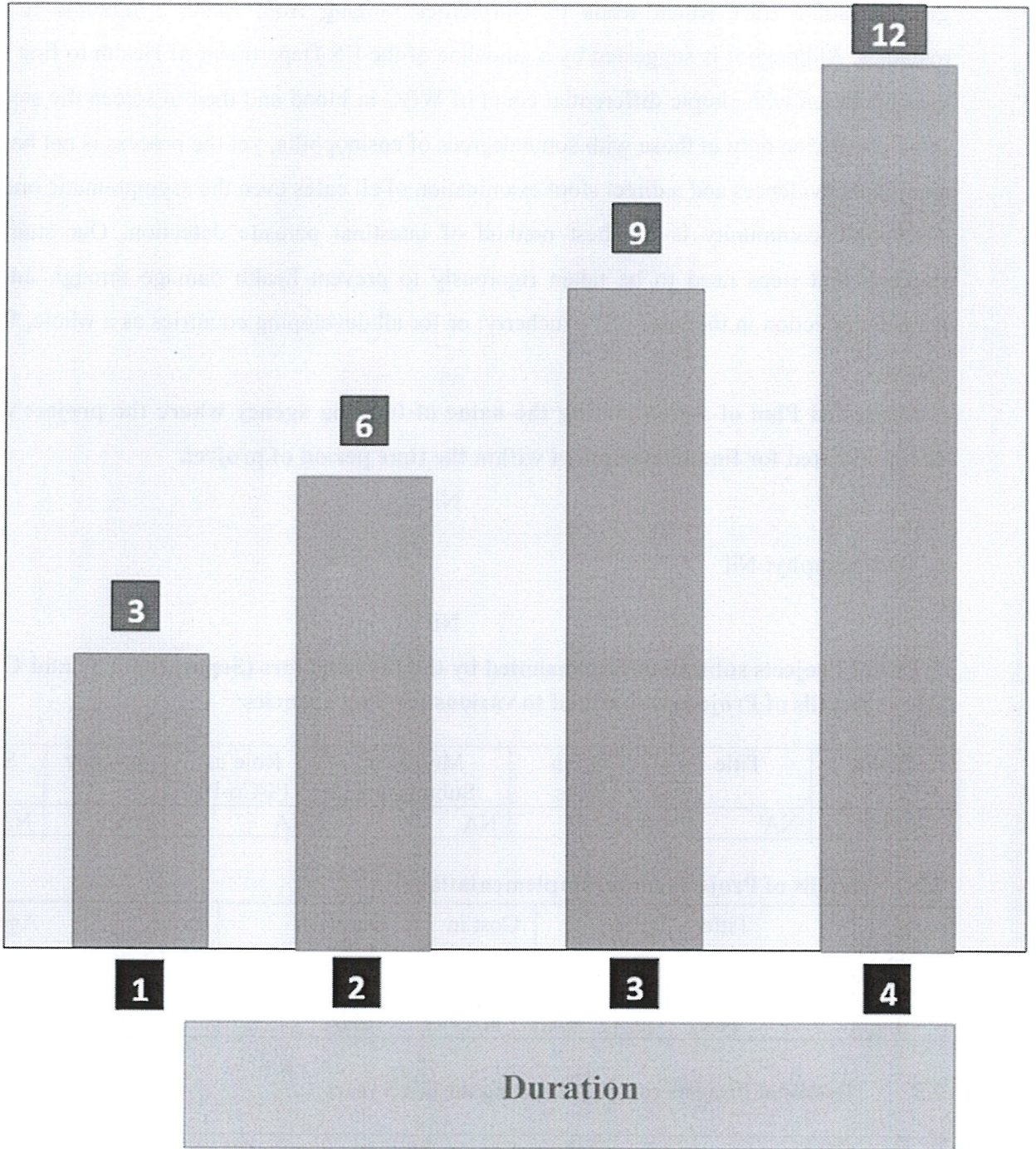
4.1 Methodology

The present study is a retrospective study undertaken at a rural medical college and hospital in the southern region of India. Adult patients who reported to medical OPD of the hospital during the period of July 2015 – June 2017 with gastrointestinal symptoms and were subjected to routine stool examinations were included in the study. A total number of 2194 patients of both sexes were found to fulfill the criteria of inclusion. The age range of the patient population was 05 - 80 years. Routine macroscopic examinations were carried out for consistency, color, presence of mucous and blood, and presence of adult worms, scolices and proglottids. For microscopic examinations, saline wet mount, Lugol's iodine wet mount and modified Ziehl-Neelsen stained preparation were prepared as per standard protocol. Each sample was examined under microscope for the presence of ova, parasites, and cysts. For hookworm ova were cultured using the Harada-Mori culture technique, [14] in which approximately 0.5–1.0 g of stool was smeared on one end of a filter paper and placed carefully in a test tube containing water in such a way that the smeared area was clear of the water. One third of the filter paper was then dipped into the water in the test tube. The tube was then incubated at an ambient temperature of 26–28°C and kept under observation for 1 week. The cultured filari form larvae were concentrated by centrifugation, stained using Lugol's iodine, and observed under a microscope.

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

S. No	Activity/ mile stolen	1 st Year			
		1-3 month	4-6 month	7-9 month	10-12 month
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

Month



4.3 Expected outcome within the time period of See Money Scheme

It has been revealed from the present study that there is a gross burden of parasites in the gastrointestinal tract which leads to morbidities ranging from minor symptoms to major maladies. Although it is suggested by a guideline of the US Department of Health to first screen the population with simple differential count of WBC in blood and then to screen the stool in a large population only in those with some degrees of eosinophilia, yet the process is not based on significant evidences and a direct stool examination of all cases even the asymptomatic ones in a susceptible community is the best method of intestinal parasite detection. Our study also suggests that steps need to be taken rigorously to prevent health damage through intestinal parasitic infection in the state of Puducherry; or for all developing countries as a whole, for that matter.

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

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.	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
2.	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
3.	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

b). Co-Principal Investigator

S. No	Author names	Title of paper	Name of Journal	Vol (Issue)	Page No.	Year
2.	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
3.	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

4.	Jayaranjani.K Jayarani.K, Sandhyarani.T, Naveen Kumar. C, Swathi.S	Detection of MBL Producing Pseudomonas aeruginosa in Tertiary Care Hospital, Pondicherry	International Journal of Recent Scientific Research	5(8)	1460-1463	2014
5.	Janani.S Sandhyarani T, Jayarani.K, Sai Ravikiran B, Naveenkumar. C	Microbiological Profile and Spectrum of Drug Susceptibility In Asymptomatic Bacteriuria Among Antenatal Women	Universal Research Journal Of Medical Sciences	1(1)	13-16	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:

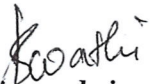
<p>1. Dr. Florida, Research Scientist, Sree Balaji Medical College and Hospital, Chennai Mobile No: 9940027169 E-mail id: biozonediagnostics@gmail.com</p>	<p>2. Dr. Suba, Professor in Microbiology, Rela Transplantation Institute, Chennai Mobile No: 9962526457 E-mail id: subamicro@gmail.com</p>
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CERTIFICATE FROM THE INVESTIGATOR

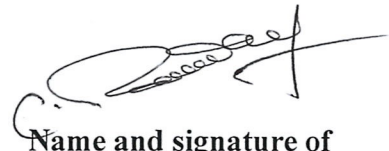
Project Title: Prevalence of Intestinal Parasites in a Tertiary Care Hospital in Rural Puducherry

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-2015.
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-2015, BIHER, and Chennai.



**Name and signature of
Principal Investigator**



**Name and signature of
Co-Principal Investigator**

Date: 27.07.2016

Place: Pondicherry



Forwarded by Head of the Department

Signature of the Head



DEAN
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES
OSUDU, AGARAM VILLAGE,
KODAPAKKAM 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. Naveen Kumar
Name of the Department	Microbiology
Title of project	Prevalence of Intestinal Parasites in a Tertiary Care Hospital in Rural Puducherry
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, spirit, 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



Comm (Dr. P. Jayakumar)