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-2018-O-10

Date: 20.02.2019

TO

Mr. S. Jai Kumar
Associate Professor/Pharmacology
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-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: Prevalence of Anemia Among Adolescent Girls in a Rural Area of Tamil Nadu, India

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

Approved on: 05.02.2019

Payment details:

Voucher No.55 **Dated: 27.02.2019**

With Regards

Dean-Research

Bharath University

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

CASH / PAYMENT VOUCHER

Date 27/02/2019

V.No. 55

Debit _____ Amount

Rs.

PAID TO Dr. S. Jaikumar

RUPEES One lakh only

TOWARDS Seed Money Scheme - 2018

BHARATH UNIVERSITY CHENNAI 600 073. INDIA.

J.I.Y

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

PROPOSAL SUBMISSION

1. **Details of Principal Investigator**

Name	: Dr. S. Jaikumar
Designation	: Assistant Professor
Highest Qualifications	: Ph.D.
Department	: Pharmacology
E-mail	: jaipharma2007@gmail.com
Contact no	: 8825343635
Date of Joining	: 17.08.2009

2. **Details of Co-Principal Investigator**

Name	: Dr. Pammy Sinha
Designation	: Professor
Highest Qualifications	: MD
Department	: Pathology
E-mail	: drpsinha@hotmail.com
Contact no	: 90036266209
Date of Joining	: 01.04.2016

Technical details

1. Introduction:

Anemia accounts for a majority of the nutritional problem across the globe and it is principally engendered by deficiency of iron. Although it occurs in all the age group, prevalence is on a higher side among women of childbearing age.[1] Its prevalence is inordinately higher among developing nations, because of low socioeconomic status and indigent access to healthcare services.[2] In developing countries, the adolescent group is more exposed to nutritional challenges and adolescent girls are more vulnerable to the disease. Studies showed that adolescent anemia was the greatest nutritional problem encountered in developing countries. India had reported high prevalence of anemia among adolescent girls, which is apparently higher when compared with the other developing nations. [3,4] The period between 10 and 19 years of age has been defined as adolescence by the World Health Organization.[5] This period has been considered as the transitional phase from childhood to adulthood. During this phase, major psychological, behavioral, and physical developments ensue, because of marked physical activity and rapid growth spurt adolescence needs additional nutritional requirements. According to recent statistics, there were about 1.2 billion adolescents worldwide, which constitute one-fifth of the total world's population and the figures are escalating. Developing countries account for about 5 million adolescents of the total adolescent population, and in India about 21% of the total population are adolescents. [6,7]

Presently, the prevalence of anemia among adolescent girls is on the rise in India. Since adolescent period signalizes the beginning of menstrual period in girls, they are at a higher risk for nutritional anemia. In rural areas of India, girls get married and become pregnant during the late adolescent period, thus increasing the risk of adolescent anemia and low birth weight babies. [4,8] Adolescent girls are chosen for the study as by improving anemia and awareness among adolescent girls, maternal morbidity and mortality especially during pregnancy can be improved. There are only few studies focusing on adolescent anemic girls. In view of the above, this study was carried out to find out the prevalence and factors associated with anemia among adolescent girls.

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

Kishore J. National Health Programs of India. 6th ed. New Delhi: Century Publications; 2006. pp. 82–4

There were many studies focused on anemia among pregnant women and children, but only few studies were available on anemia among adolescent girls. This study was aimed to find out the prevalence of anemia among adolescent girls and to correlate with sociodemographic status in a rural area of south India.

2.1. International Status:

Anemia accounts for a majority of the nutritional problem across the globe. The prevalence of anemia is inordinately higher among developing nations, because of low socioeconomic status and indigent access to the healthcare services. Adolescent period is signalized by marked physical activity and rapid growth spurt; therefore they need additional nutritional supplements and are at utmost risk of developing nutritional anemia. This study was carried out to find out the prevalence of anemia among adolescent girls. anti-oxidant chemical constituents. There had been searches that were conducted on the herb, and many components like vitamin A, C and flavonoids, polyphenols are being reported (Dogra et al., 1977).

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 study followed a quantitative survey approach and descriptive design to find out the proportion ofanemia among adolescent girls. The study was approved by the Institutional Ethical Committee.Informed consent was obtained from the study participants and they were assured of confidentiality andprivacy of records. The sample size required for this study was estimated using the formula:

$$\frac{4PQ}{L}$$

P

= 0.55 (proportion of samples who are assumed to have anemia; taken from pilot study), Q = (1-P)

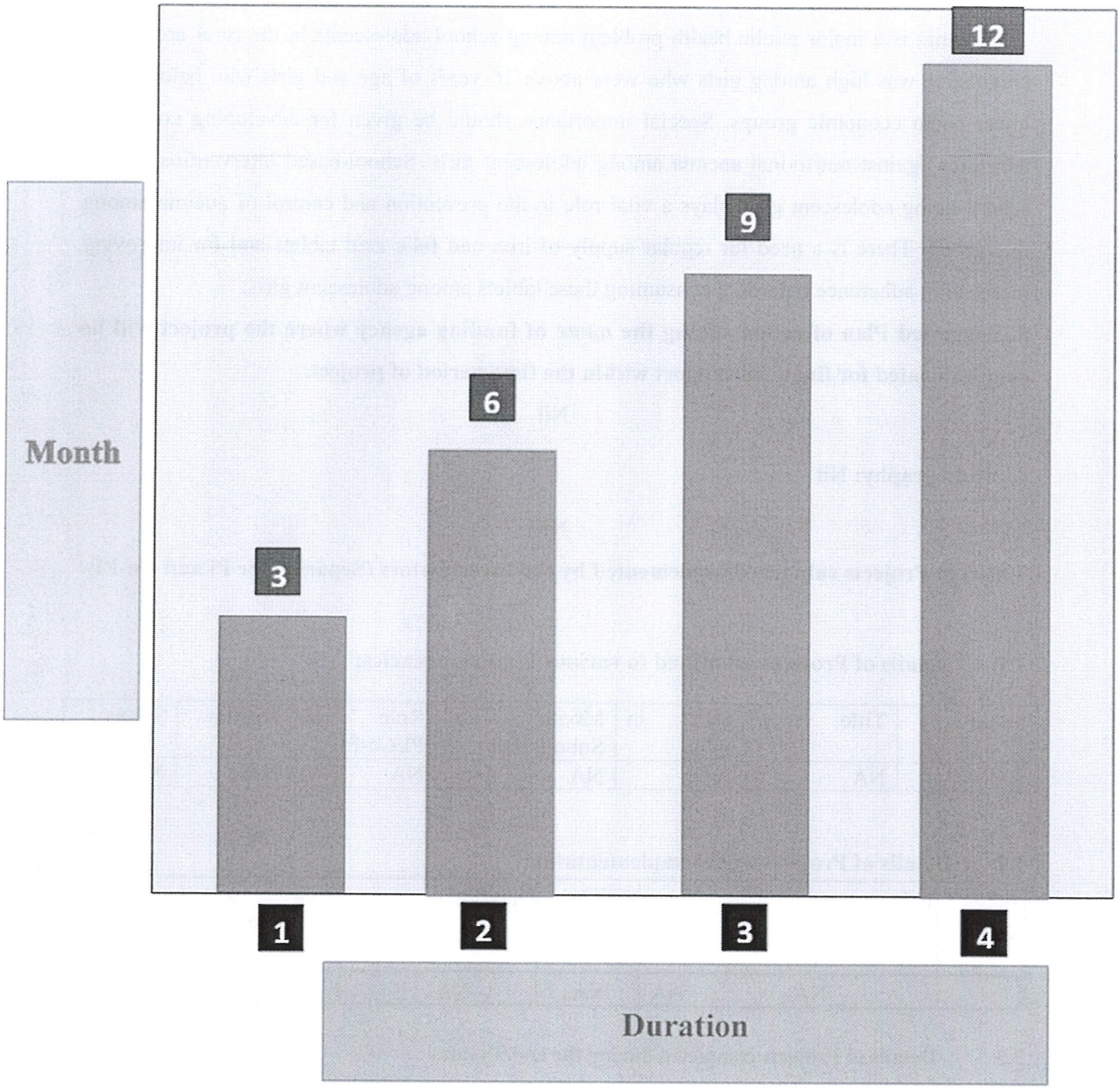
L = precision error (12%). The estimated sample size of 255 was calculated considering 10%nonresponsive error. Adolescent girls between 10 and 19 years of age who attended a tertiary hospitallocated in Chidambaram, a rural area in Tamil Nadu, were included in the study. After getting informedconsent from the subjects, the information regarding age, sociodemographic status, menstrual history,and short clinical details were recorded. Sociodemographic status was estimated by modified B. G.Prasad's classification.

By venipuncture of antecubital vein, 2 mL of venous blood was drawn and collected inethylenediaminetetraacetic acid (EDTA) vacutainers under aseptic precautions. The collected bloodsamples were analyzed in the Department of Pathology by five-part automated cell counter (BeckmanCoulter AC T diff 2).

For interpretation of anemia, the cut-off points for hemoglobin (Hb)% was taken as < 12 g/dL. Theseverity of anemia was graded as mild (10 to < 12 g/dL), moderate (7 to < 10 g/dL), and severe (<7g/dL).[4]

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**


Month
3
6
9
12
1
2
3
4
Duration

4.3 Expected outcome within the time period of See Money Scheme

Anemia is a major public health problem among school adolescents in the rural areas. The prevalence was high among girls who were above 16 years of age and girls who belonged to lower socio economic groups. Special importance should be given for developing corrective measures against nutritional anemia among adolescent girls. School-based intervention among school-going adolescent girls plays a vital role in the prevention and control of anemia among this group. There is a need for regular supply of iron and folic acid tablets and for improving medication adherence regarding consuming these tablets among adolescent girls.

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
	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
	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
	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.	Asokan Balakrishnan Ramajayam1, **Jaikumar Sankarapillai2*,** Somasundaram Ganesan2	Effect of ethanolic leaf extract of ipomoea sepiaria on sexual behaviour in male wistar albino rats	International Journal of Research in Pharmacology & Pharmacotherapeutics	7(1)	25-28	2018
2.	Somasundaram G1, Israel Raja Johnley I2, Sengottuvelu S3, **Jaikumar S1**	Effect of Pistia stratiotes Leaf Extract on Hepatic Functions against Paracetamol Induced Liver Damage in Rats	Scholars Academic Journal of Pharmacy	6(1)	1-3	2017
3.	Sridhar VR1, Jayakumar P2, Arun Seetharaman1, **Jaikumar S3***	Sedative effect of Lawsonia inermis root extract on phenobarbitone induced sleeping time in mice	European Journal of Molecular Biology and Biochemistry	3(3)	113-115	2016
4.	Sridhar VR1, Jayakumar P2, Arun Seetharaman1, **Jaikumar S3***	Influence of tabernae corymbosa root extract on Central nervous system mediated muscle Coordination in experimental animal	Acta Biomedica Scientia	3(4)	223-226	2016
5.	Sridhar VR1, Arun Seetharaman1 Jayakumar P2 and **Jaikumar S3***	Anticonvulsant Activity Of Oleogum Resin Extract Of Commiphora Wightii Against Pentylenetetrazole Induced Convulsion In Mice	International Journal of Pharmacy & Therapeutics	7(2)	53-56	2016

9. Budget

SI. No	Head	Amount (Rs.)
1	BP Apparatus, Stethoscopes, Body weight weighing machine, SPSS version 16 Chicago, IL, USA, ECG machine	50000
2	Consumables (gels bottles, cotton, sprit, testing charges, tools, etc.)	5000
3	Travel support for the purpose of research work.	10000
4	Contingency	25000
5	Others 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. B R Ashokan** Professor in Pharmacology, Aarupadi Veedu Medical College and Hospital, Puducherry **Mobile No**: 82485 60347 **E-mail id:** brashokan@gmail.com	2. **Dr. S. Sengottuvelu** Professor in Pharmacology Department, Nandha College of Pharmacy, Erode - 638052 **Mobile No**: 9994426689 **E-mail id:** sengt@rediffmail.com

CERTIFICATE FROM THE INVESTIGATOR

Project Title: Prevalence of Anemia Among Adolescent Girls in a Rural Area of Tamil Nadu, India

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: 28.01.2019
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. Jaikumar
Name of the Co-Principal Investigator	Dr. Pammy Sinha
Name of the Department	Pharmacology
Title of project	Prevalence of Anemia Among Adolescent Girls in a Rural Area of Tamil Nadu, India
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	50000
2	Consumables- Gel bottles, cotton, sprit, testing charges, tools, etc.	5000
3	Travel support for the purpose of research work.	10000
4	Contingency	25000
5	Other's consumables	10000
	Total	**1,00,000**

Name and Signature of the Research Advisory Committee members with date

Internal Quality Assurance Cell * SLIMS * IQAC Pondicherry-02

(Dr. G. Jayalakshmi)