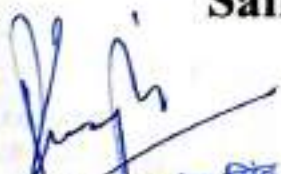




**SOP/Guide**  
**for**  
**ICMR Short Term Funded Research Projects**  
**(ICMR-STs)**  
**for**  
**Undergraduate Medical Students**

**Uttar Pradesh University of Medical Sciences**  
**Saifai, Etawah, Uttar Pradesh**

  
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Prof. (Dr.) Adesh Kumar  
Dean (Medical Faculty)

**UPUMS, Saifai, ICMR Short Term Funded Research Projects (ICMR-STS)**  
**SOP/Guide for Undergraduate Medical Students**

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## 1. ICMR STS- What is it?

Every year, the Indian Council of Medical Research (ICMR) offers a Short-Term Studentship (STS) program for undergraduate medical and dental students with a prime goal to make them familiar with the research methodologies, scientific writing, and research ethics. Under this program, each student has to undertake a research project, which may be an independent project or an ongoing project of their seniors or faculties, of which, they can be a part. This serves as an incentive for them to take up research as a career in the future. This program was initiated by ICMR in 1979.

## 2. Why STS program?

- A golden opportunity to learn how to conduct a research in health sciences domain.
- The selection of your own idea (proposal) among thousands of applicants by ICMR is like a self-rewarding endeavor which motivates you to conduct further research studies in upcoming years of medical school.
- It adds to your CV and hence boosts your career profile.
- A stipend of Rs. 25,000/- per month is awarded for two months (total Rs. 50,000/-) from the year 2023.

## 3. Eligibility-

- This program is only for MBBS/BDS students studying in Medical/Dental colleges recognized by MCI/DCI, before they appear in their final exams and therefore, interns/ PG students are not eligible to apply. Students of paramedical/non-medical courses may not apply.
- The student must carry out the research in his/ her own medical/dental college under the guide who is employed in the medical/dental college as a full time regular faculty. Only permanent full time faculty members working in any of the Department of the Medical/Dental College where the student is enrolled can act as the guide. Part time consultants/visiting faculty/ residents/ Readers/Tutors/ Pool officers/ /Demonstrators/PG students/Surgeons cannot be the guide.
- Only one student will be allowed to work under one guide. Two or more students are not permitted to work on same topic together. Proposals submitted on the same topic by different students are liable to be rejected outright. The student may have one Guide and other Co-Guides but may note that the ICMR does not recognize any Co-Guides for STS. ICMR will recognize only ONE main Guide for STS.
- Indian National students who are studying in recognised medical/dental colleges of India can apply. Students who are holding OCI cards/ PIO cards/ NRI's studying in Indian medical/dental college can also apply and copy of the OCI/ PIO/ NRI card must

  
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be submitted. Students from foreign medical/dental colleges are not eligible for this program.

#### 4. Overview of ICMR-STS Program-



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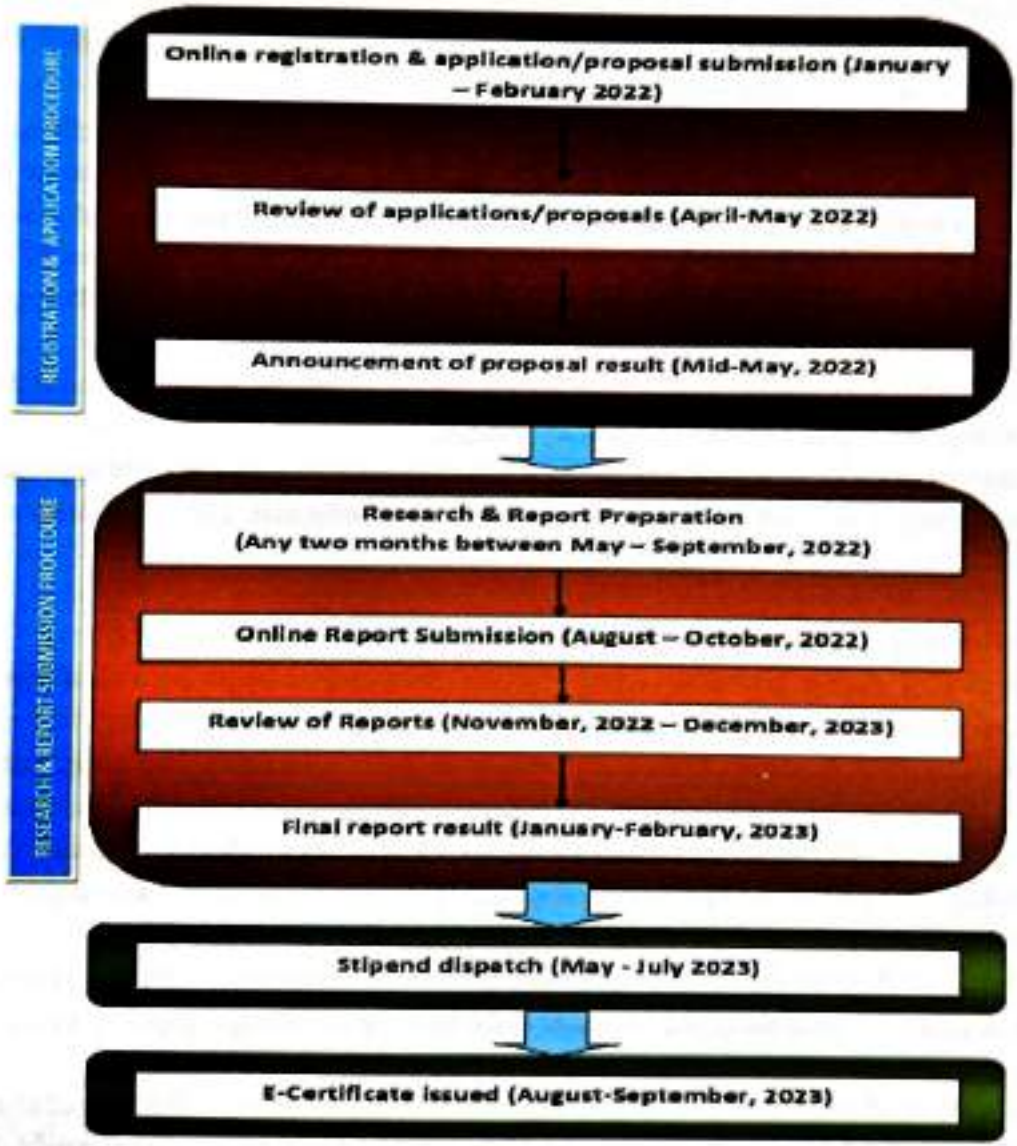
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### 5. ICMR-STS TIMELINE-

Given here is the timeline for ICMR-STS 2022 for an illustration purpose only.

The program usually follows a similar timeline every year. Kindly follow the timeline of the year you are planning to submit the proposal.



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## 6. Step by Step Guide to the ICMR-STs Program

### **i. Selecting a topic and framing the study design:**

- Choose the domain of your research (a list of various domains is available on the STS website, for example- Biochemistry, Physiology, Pathology, Forensic Medicine & Toxicology, Community Medicine etc). It is not mandatory to choose a topic related only to your current year subjects, say for example – A first-year student can do a research project in Psychiatry or Community Medicine.
- Once you have identified your topic in any subject, do a preliminary search (literature review) to know what work has been done on the topic in the past and what gaps have remained yet. Afterwards, start developing the research questions (objectives).
- Based on the facilities available in the department/ institute, you can do a laboratory-based as well as survey-based research.
- At the undergraduate level, survey-based studies are comparatively easy to perform.
- Try to choose a topic that is easy to understand and not very complex in execution. **Often, complex topics get rejected due to less probability of smooth and fruitful execution. Avoid choosing topics that have been extensively researched**, eg: the effect of mobile addiction on students, the prevalence of hypertension or prevalence of diabetes. *Novel ideas have a higher chance of getting selected.*
- You will have a maximum of 2 months to complete your project, so be careful while selecting your topic, objectives, and study design.
- In case you don't get any idea of the topic on your own, you can directly approach any faculty (may or may not be related to your current year subjects). They will surely suggest something to work upon.

### **Note: Preliminary Literature review:**

- The whole study is built based on existing data. Moreover, it helps to create a new study design. So, make sure the base is strong.
- Background information of the work done over your topic can be found in published materials such as relevant textbooks, articles from medical research databases (e.g., Medline/PubMed- searched with the help of MeSH which shorts 'Medical Subjects Headings'), reliable non-predatory research journals, internet search engines, and Wikipedia.
- While going through the existing literature, make sure to write down the information that can be useful for your study (e.g., lacunae in the existing knowledge, gaps in previous study designs, methodology or scientific writing).
- If similar studies have been done in the past, whether they were able to achieve their objectives. If not, you can repeat the study with a new approach (different study design, sample size, and location).

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- Simultaneously, start collecting the references as well. This will be needed later when citing the references.
- Pre-writing phase: Finally, organize the existing information on the topic and make a rough draft exactly in the same format as the proposal before you actually start writing the proposal.

## ii. Study Design Selection:

- **Experimental studies and clinical trials are not approved under STS.**
- Observational studies are relatively easier to conduct at the undergraduate level and have a higher chance of selection. These include cross-sectional studies and case-control studies. (Cohort studies are beyond the scope of STS.)
- It is crucial to choose the design based on the resources available at your institution and the time available.
- Survey-based studies are less time-consuming, easier to analyze and provide a good opportunity for new researchers to learn the dos and don'ts of clinical research.
- **The allotted time for the study is 2 months, which has to be kept in mind while choosing a study design.** It is futile to start something which is challenging to complete in the allotted time.

## iii. Comprehensive Literature search on PubMed:

- Gather keywords for your search from the relevant content on Wikipedia and reliable websites (.gov., .edu., .org).
- Efficient searching on PubMed can be done by combining MeSH terms with the BOOLEAN operators.
- Searching a database by BOOLEAN operators: Simple BOOLEAN operators include 'AND' 'OR' 'NOT', which are used to broaden or narrow your search. For instance, Typing 'Lungs AND infections' in the PubMed search bar will show articles that have both the terms/concepts, 'Lungs OR infections' will show articles that have either terms/concepts and 'Lungs NOT infections' will show articles that focus on lungs, not infections.

## iv. Choosing a mentor for your project:

- The guide has to be a **regular full-time faculty member** from the same Medical/Dental College/Institution and **one Guide can take only one student under him/ her each year. In case duplicate names of students or Guides are found, all applications are automatically rejected.**
- Good mentorship is the key to avoid any discontentment with research methodologies and scientific writing.

  
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- Choosing a guide may involve evaluation based on various criteria like their availability, previous research experience, publication record, relevancy to your topic domain, approachability, etc.
- After evaluation, approach any of your faculty. Explain to them the 'rough draft' you have made about your project.
- Your guide can also help you with sample size calculation for your study.
- Not to forget, any resident or a senior can't be your guide though it is always a good option to involve any experienced senior in your project.
- The research project can be done individually as well as teamwork (with you as the principal investigator).

#### v. Registration with student details on the STS website:

- The link to register for the STS program is usually activated in mid-December and remains till the first week of January (for STS 2020, it was available from 10th December till 9th January).
- Once you have registered with your personal details, ICMR provides you with a Reference ID and password (via e-mail) that you have to use for all future purposes.
- Though the registrations start in December, you don't need to wait for it to start. Start thinking about your topic and research questions as early as possible, because it is a time-taking process.

#### vi. Preparing the proposal:

- Make a 'proposal' as per STS guidelines on 'Preparation of Proposal.' Every year this is made available on the STS website.
- As far as the word limit is concerned, the provided guidelines are flexible, but the rest of the guidelines should be followed strictly.
- Once you have prepared your proposal, check for plagiarism using 'iThenticate'- ask your guide or department about this application.
- Also, check for any errors in spelling, grammar, and punctuation using 'Grammarly.'  
<https://www.grammarly.com/>
- Make sure you have written your references properly (must be in Standard Vancouver format). References should preferably be taken from recently published research papers.  
<https://www.imperial.ac.uk/media/imperial-college/administration-and-supportservices/library/public/vancouver.pdf>
- Now, get it reviewed by your colleagues, seniors, and guide.

#### Note: A brief overview of what to write in your proposal:

- Critical appraisal of the existing medical literature on the topic plays an important role here. To write, you need to read the existing literature thoroughly.

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- Write a short introduction about your topic (includes a brief writeup about the magnitude of the problem e.g. its incidence and prevalence, what's known about the topic, what are the gaps, clear statement of the problem, and about your approach).
- Define your aims and objectives. Objectives (Not more than 2-3) should be clear, specific, and achievable.
- Write about methodology in short (study setting, design, duration, sample size and population, inclusion and exclusion criteria, ethical approval, methods to achieve each objective i.e. there should be synchronization b/w objectives and methodology, and statistical analysis).
- The implications section makes up an essential part of your proposal. This section includes the benefits expected from your study.
- References. For the STS Program, the references must be in Vancouver Style. It follows rules established by the International Committee of Medical Journal Editors (ICJME). Please read more about how to reference in this style here: <https://www.imperial.ac.uk/media/imperialcollege/administration-and-support-services/library/public/vancouver.pdf>

#### vii. Submission of proposal:

- The proposal made as per the STS guidelines has to be submitted online (in pdf format) on the STS website and the deadline for this is slightly longer than for registration.
- *Kindly refer to the STS Timeline of your year for all the deadlines.*
- Documents to be included are available as attachments for download at the ICMR STS website

A. Registrations Details (Part A)

B. Guide Details (Part B)

C. Attachments (Part C)

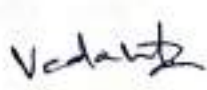
- **Application Attestation Form (AAF)** is the most vital part of your proposal submission because if you do not submit this form, your application will be automatically rejected. This form requires the signature of your guide, the Head of the Department of your guide, and Dean of Medical faculty. *So, this is quite a time-consuming process and should be planned beforehand.* The blank format of AAF can be downloaded from the STS website.

- Ethical Committee Approval
- Study Questionnaire (if any)
- Consent Form (if any)

**These documents can also be submitted at end along with submission of report.**

D. Proposal Details (Part D)

  
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- All of these documents are to be scanned and saved separately on your device in .pdf format which is then uploaded at the link at the time of online proposal submission.
- After submission, ICMR takes around 3-4 months to upload the results.

- Do not merge pdf file of the proposal and AAF. Both files are to be uploaded separately.


#### viii. Applying for ethical approval:

- Just after you have submitted your proposal, make sure to apply for ethical approval from the Institutional Ethics Committee of UPUMS. The research proposals should be submitted to Institutional Ethics Committee after taking approval of Departmental Research Committee (DRC) of UPUMS.
- Ethical Approval takes upto 3 months if properly submitted in the first attempt. If poorly done, the IEC can ask you to revise, which can extend the process upto 5-6 months.
- There is a separate guide available on the official website of UPUMS on applying for ethical approval to the Institutional Ethics Committee. Kindly go through the same.
- It is important to get IEC approval by the time 2 months are remaining for submission of the report because if you get it later than that, then your report will not be accepted.

#### ix. Conducting the actual study:

- The selected students for the STS program carry out the proposed research work and prepare the report in **any two months, from the day of approval of the proposal to the deadline given on the ICMR STS site.**
- *Kindly review the deadlines per your year's timeline from the ICMR STS website.*
- After obtaining the ethical approval, start conducting your study with the help of available facilities in the institute and guidance from your mentor.
- This includes stages-
  1. Sampling process which includes access to the target population and sample size calculation.
  2. Ethical considerations (e.g. voluntary participation, informed consent, conflict of interest).
  3. Systemic data collection can be done by using both online as well as offline data collection techniques. Data collection demands both time and patience, so plan your study accordingly.
    - Set the inclusion and exclusion criteria.
    - Framing of the questionnaire (if any). This includes important instructions to the participants and the body of the questionnaire.
    - Identifying information should not be asked in the questionnaire. If asked, assign them unique code IDs to ensure the confidentiality of the data.
    - Your response rate depends on your questionnaire as well. So, make sure

  
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it's in an easy format and preferably in the local language.

- Store the data in a spreadsheet.
  - 4. Once you have obtained the data, group and recode your data for analysis purpose.
  - 5. Do the data analysis with the help of statistical software.
  - 6. Write up your conclusions and formulate recommendations.
- 
- ICMR provides you two months to conduct your study and write a detailed report on it. No extension of duration is given.

#### x. Applying the statistics:

- You may need a biostatistician, but if you have done courses related to statistics in medical research, you can apply statistics on your own.
- Some most commonly used statistical tests in medical research are student's t-test, ANOVA, Chi-square test.
- You can ask the help of your guide for this step. They will be able to guide you as to which statistical test needs to be applied and how should you go about it.

#### xi. Preparing a detailed report:

- Once you have finished your actual study, start writing a detailed report as per the STS guidelines on 'Preparation of Report.'
- Represent your results well with the help of figures and flowcharts. Discuss both expected as well as unexpected findings in your report.
- The effect sizes/confidence intervals should be mentioned in your proposal along with the p-values. Only p-values are never sufficient to interpret your findings.
- Give references properly. No references are given in the conclusion/summary.
- Once finished, check for plagiarism and any errors in spelling, grammar, and punctuation.
- Now, get it reviewed by your guide as well as seniors who have been involved in research work.
- All submissions to ICMR must be prepared by the student under guidance. The Guide is required to sign an undertaking to the effect that it is original work and not plagiarized from any other sources. In case the student is assigned work that is part of a larger project, only work actually done by the student should be given in the report.

*Kindly note that ICMR does not accept any proposal/ report from MBBS/BDS students/guide that involves research misconduct or plagiarism. Hence, at any time point, if it is detected that the STS research proposal/ STS report has been plagiarized, the STS research proposal/STS report will be out rightly rejected. This practice is unacceptable and will be categorized under 'Research Misconduct' and not accepted by ICMR.*

  
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## xii. Submission of the report:

- **The Report Submission Form should be filled up carefully.** In case you make a mistake during submission you will also have an opportunity to rectify the same by logging into your account.
- The STS Report Submission Form consists of three parts-

### A. Student Information (Part A)

### B. Report & Enclosures to be attached (Part B)

## MANDATORY ENCLOSURES-

Can be downloaded from ICMR STS website.

- a. **STS Report** to be submitted as a .pdf file only (up to 2Mb).

*Please note that there should be no identifying information in all these documents and reports. If present, it will be automatically rejected.* Ideally, the report is prepared as a single file with consent forms and the questionnaire (if any) compiled in it. As ICMR guidelines say- "There is no separate provision for separate submission for these forms/tools."

- b. **STS Report Attestation Form (RAF)** duly signed and forwarded by the Guide, scanned, and submitted as a .pdf file (up to 1Mb).

- Kindly note that 'Application Attestation Form (AAF)' and 'Report Attestation Form (RAF)' are different documents.

- Please attach 'Report Attestation Form (RAF)' along with the report.

- c. **Institutional Ethics Committee (IEC) Approval** certificate scanned and submitted as a .pdf file (up to 1Mb) or Certificate of Exemption from ethical review issued by the ethics committee.

- If you have submitted the IEC certificate at the time of submission of the STS proposal, it will be uploaded automatically and there is no need to resubmit it. However, you have the option to replace and reload another certificate, if required.

## OPTIONAL ENCLOSURES-

If there is any other document that you would like to submit, it can be uploaded in this section and submitted as a .pdf file (up to 1Mb). Eg. IEC approval from collaborating institution, a letter from the principal/ guide, or any other item concerning your research.)

  
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Please note that without the three Enclosures stated above, the report cannot be submitted ONLINE. Please upload all the attachments very carefully.

### C. Details of Payment of Stipend (Part C)

- The stipend will be issued online to **the student's OWN SINGLE HOLDER bank account only.**
- Kindly note along with the bank account details, a scanned copy of a cancelled cheque is required for verification of account details. *This cheque should not be filled up and should NOT be signed or dated. It should be cancelled so that it cannot be misused.*

**Suggestion:** A self-checklist is available for download from the ICMR STS website. We recommend you get the printout of the checklist for your reference only. This is not to be submitted.

### xiii. After STS report submission:

**In case your report is approved:**

- The stipend will be transferred to the student's own bank account (single holder) through RTGS/NEFT by the month mentioned in the ICMR STS Timeline.
- The certificates will be issued online to the selected students (only those whose reports have been approved by ICMR). The student can log in with their credentials as used for report submission and download the e-Copy of STS Certificates.

**Future Prospects for your study:**

- You cannot re-apply for the STS Program if you have been selected once as a grant holder. If not, you can apply for next year till you appear in your final year exams. Interns are not eligible for this program.
- If you have been notified that the report has been selected, you may begin the process of locating a suitable journal for publication of your study with your guide.
- Care should be taken to avoid predatory journals.
- No permissions are necessary from ICMR's side for the publication process.
- **ICMR does not take any responsibility for the publication of your study. There is no automatic publication of STS Reports in the ICMR Journal.**

  
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- In any such presentation/publication appropriate acknowledgement should be given to ICMR-STS Program under which the research was carried out.

- Once the paper/abstract is published, a copy of the same must be sent to ICMR for information. Similarly if the student receives an award or honor, information should be shared with ICMR by email at stshrd2017@gmail.com.

*If your report is not selected, you can still publish your study in medical research journals. Though, you will not get the stipend and certificate from ICMR.*

### 7. Take-home messages-

- ICMR STS is an excellent opportunity for you to explore your interest in the world of research.

- The added advantage of working closely with a guide during the process is beneficial for first-time researchers.

- The idea is to write the findings of your own study without any manipulation of the data. Data manipulation is highly frowned upon in the research world.

- Keep a check of all the deadlines and keep yourself updated with any notifications posted on the STS website.

  
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## 8. Exemplar ICMR proposal of KGMU, Lucknow

Reference ID - 2018-02187

### Title

Retrospective clinico-serological analysis of chikungunya cases in a tertiary care referral centre in northern India.

### Introduction

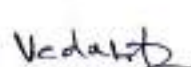
Chikungunya is an arboviral disease, caused by chikungunya virus (CHIKV) and transmitted by female mosquitoes.<sup>1</sup> The name comes from a word in Makonde language of southeast Tanzania, meaning 'that which bends up', as the disease classically causes severe joint pain resulting in a contorted posture of the acutely infected patient.<sup>2,3</sup> First recognized in an epidemic form in Africa in 1952,<sup>1</sup> numerous outbreaks have been documented in both Africa and Asia since then.<sup>4</sup>

CHIKV is an alphavirus, member of the *Togaviridae* family, part of the Semliki Forest Antigen complex.<sup>5</sup> A positive sense, single-stranded RNA virus of 11.8 kb, CHIKV has three distinct lineages: the West African, the Asian and the East Central South African (ECSA) phylogroup.<sup>6</sup> These lineages have distinct genotypic and antigenic characteristics.<sup>7</sup> The virus is usually diagnosed by enzyme-linked immune sorbent assay (ELISA) using anti-CHIKV IgM antibody, indicating active infection or by polymerase chain reaction (PCR).<sup>8</sup> The virus is currently a global re-emerging virus, not just restricted to the tropics but also affecting subtropical areas of Europe and North America.<sup>9-13</sup>

The acute form of chikungunya is usually characterised by high-grade fever, headache, myalgia, arthralgia and rash. Crippling arthritis symmetrically involving small joints of hands, wrist, elbow, shoulder, knee and ankle joints is seen, evident in the bent or stooped posture of the patient.<sup>14</sup> Fatal haemorrhagic or encephalitic manifestations can also be seen in a subset of patients.<sup>15</sup> The chronic form presents with relapses including fever, inflammatory polyarthritis, stiffness and exacerbation of arthralgia. Neurological, ocular and mucocutaneous manifestations may also be present.<sup>16</sup> Rarely, chikungunya may prove fatal, especially in the elderly, neonates and individuals with co-morbidities or coinfection with dengue, another arboviral disease spread by the same vector as chikungunya.<sup>17,18,19</sup> Clinical diagnosis of the disease may sometimes prove difficult since it shares many features with dengue and Japanese encephalitis (JE).<sup>20-22</sup>

Chikungunya, which earlier had its human spread mainly by female *Aedes aegypti* i.e. the tiger mosquito, gained a new vector in the re-emergence of 2004 in the form of *Aedes albopictus* after a genetic mutation in a membrane fusion glycoprotein considerably increased its efficiency of transmission via the latter.<sup>23,24</sup> In India, after an epidemic in 1973, the disease had been silent for 32 years, when it re-emerged in October 2005.<sup>25-28</sup> Since then, the epidemic has been ongoing, with numerous reports documenting the significant affliction of the populace by the re-emergent virus<sup>28,29,30</sup> and the resultant impact.<sup>31,32</sup> Phylogenetic analysis showed that the current epidemic has been caused by CHIKV belonging to the ECSA phylogroup while earlier isolates from India (1963 to 1973) were of the Asian genotype.<sup>33,34</sup>

  
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Currently, chikungunya has neither any safe and effective vaccination nor any targeted therapeutics available.<sup>26</sup> Prevention and supportive care are the mainstays of tackling the disease outbreaks.<sup>27</sup>

The proposed study will retrospectively evaluate serological data of chikungunya patients tested at Microbiology department of King George's Medical University (KGMU), Lucknow, which is the major referral centre for the entire state of Uttar Pradesh. The study will analyse data in different subgroupings of age, sex, clinical manifestations, district etc. and chart the trends. It is the primary prevention that the study aims to bolster by highlighting the epidemiological patterns in the seropositivity of Chikungunya, which may be helpful in guiding the focus of vector control programmes, especially in resource-scarce settings, by concentrating on the most affected of subgroups.

The National Vector Borne Disease Control Programme (NBVDCP) of the Government of India is the nodal agency for national monitoring and surveillance of chikungunya, along with other vector-borne diseases such as dengue and malaria. NBVDCP reports a total of 64057 and 62268 cases of clinically suspected chikungunya cases for the year 2016 and 2017, respectively, lending weight to the impact of chikungunya on the Indian population.<sup>28</sup> However, NBVDCP data indicates a significant gap in the reporting of chikungunya from Uttar Pradesh (UP) in the last 8 years with less than 100 cases per year except in 2016, when 2458 cases were reported. The present study also aims to fill in this gap, by providing a report for all patients tested serologically for chikungunya in a tertiary care institute catering to the entire UP. Furthermore, because chikungunya may have encephalitic manifestations, the study will also serve to illustrate whether or not CHIKV is an important etiological diagnosis of acute viral encephalitis, a perspective grossly underrepresented in the literature.<sup>39-42</sup> The study is well-equipped to demonstrate this since the hospital caters to the encephalitis afflicted belt of UP.

### Primary Objectives

- To analyse serological and clinical data in different subgroups of age, sex, clinical manifestations, region etc. and chart the trends.
- To derive meaningful epidemiological conclusions from the patterns emerging post-analysis.

### Secondary Objectives

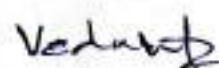
- To sort and organize medical records in microbiology related to all patients tested for chikungunya in Microbiology department of KGMU from 2012 to 2017.

### Methodology

#### Type of Study

Epidemiological investigation.

  
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### Study Design

The study will be a retrospective observational study conducted at Microbiology department of the King George's Medical University, Lucknow.

### Inclusion Criteria

1. All patients, with clinical suspicion of chikungunya who were tested for chikungunya by ELISA (Anti CHKV IgM antibody) or both ELISA and PCR, from 2012 to 2017, both years included.
2. Patients from whom informed consent had been obtained at the time of testing for the use of their serological and clinical data for any current or future research purposes.

### Exclusion Criteria

1. Data missing regarding the patient.

### Sample size

All patients fulfilling the inclusion criteria will be included, which a preliminary review indicates are more than 3000.

### Data Collection Procedures

Testing of patients for chikungunya, for which the current analysis is proposed, has been already done in the department of Microbiology as follows.


Patients who presented with signs and symptoms of chikungunya were asked by various departments of the hospital to get tested serologically. ELISA has been the method of diagnosis, with Anti CHKV IgM antibody kit issued by the National Institute of Virology, Pune being used, with a sensitivity of 95% and specificity of 98%. After getting informed consent for testing and research purposes, ELISA was done, which came out as either positive, negative or equivocal. Patients who were ELISA equivocal were then asked to get tested by conventional PCR. A subset of patients was tested for both ELISA and PCR simultaneously.

Using the provisional diagnosis of the patient, made before serological testing, different manifestations of chikungunya will then be used to group patients into four clinical categories. The manifestations used for classification will be as follows: classical arthralgia, Viral Haemorrhagic Fever (VHF), Pyrexia of Unknown Origin (PUO) and Acute Encephalitis Syndrome (AES).

Patients would be considered positive for chikungunya in the analysis if the ELISA is positive or if ELISA is equivocal/negative but PCR is positive.

  
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### Statistical Analysis

Data will first be tabulated in Microsoft Excel and documented clearly. Seropositivity will be calculated for different subgroups of age, sex etc with groups being compared across different manifestations of chikungunya.

Using the data obtained above, further statistical analysis would be done in IBM Statistical Package for Social Sciences (IBM SPSS, version 24), for which institutional access is available. Pearson's chi-square test will be applied for determining whether significant difference exists between observed and expected seropositivity in different corresponding subgroups. Logistic regression with multivariate analysis will be applied to independent variables being age, sex, district to which patient belongs etc. and dependent outcomes being different clinical manifestations and seropositivity.

Meaningful conclusions regarding epidemiology of chikungunya henceforth would be derived.

### Ethical Considerations

All patients sent to the Microbiology department of the hospital from various other departments have already given informed consent for use of their test data for any research in the future, records of which have been maintained meticulously.

### Implications

The present study, on completion, will contribute to filling the gap in the literature pertaining to the epidemiology of Chikungunya in the state, thus revealing trends in the manner of involvement of the general population. This would be a step further in the epidemiological studies of viral diseases prevalent in the area concerned.

As a disease causing significant morbidity and some mortality, but still lacking effective vaccination and therapeutics, chikungunya's epidemiological data, post analysis, will be beneficial to the public health officials in better tackling the menace by ensuring preventive measures to those groups of population who have the highest seropositivity or the most severe of manifestations.

Furthermore, the study will serve to illustrate whether the 2005 re-emergence of chikungunya virus and subsequent epidemic has continued unabated, especially in Uttar Pradesh, or has started declining. The study will also help to contribute to the literature whether chikungunya as an etiological diagnosis should be considered or not in the evaluation of acute viral encephalitis. The analysis will also be useful in filling the void in the reporting of chikungunya cases in the state of Uttar Pradesh to the National Vector Borne Disease Control Programme (NBVCDP).

Conduct of the proposed study will also help the student investigator to better understand research methodology and to do better investigational work in the future, especially during his clinical years as a resident.

  
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## References

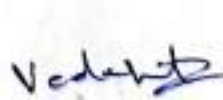

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Note: The work from this research is in press at *Indian Journal of Medical Research*.  
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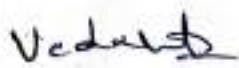


  
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**9. ICMR-STS 2018 Selected projects which are approved by UGRMC of JIPMER (for easy reference and understanding)**

Sl No	ICMR Project Number	Name of the student	Name of the Project	Guides name and Affiliations
1	2018-02043	Ronit Juthani	Use of scatter plot patterns derived from automated hematological analyzers in the diagnosis of acute febrile illnesses.	Dr. Debdatta Basu, Professor (Senior Scale), Department of Pathology
2	2018-00142	A. Lakshanya	Evaluation of factors responsible for advanced foot infection at index presentation among diabetic patients in South India	Dr. Sreenath G S, Additional Professor, Department of General Surgery, JIPMER
3	2018-00961	Vijay S	Analysis of clinico-demographic risk factors for postoperative pulmonary complications following gastrointestinal surgery.	Dr. Elamurugan T P, Assistant professor, Surgery
4	2018-04266	Anirban Deb	Study of Knowledge, attitude and practices of Interns according to Biomedical waste Management Guidelines 2016 in a tertiary care centre in South India	Dr. Arun Alexander, Additional Professor and HOD, Department of ENT
5	2018-03191	S Sai Teja	A Study on Intestinal parasitic infections among school children in Karaikal	Dr. S R Swarna, Associate Professor, Microbiology, JIPMER Karaikal
6	2018-02705	Kashish Arora	Correlation of dysplastic changes of squamous epithelial cells to bacterial vaginosis based on Nugent score in the cervical smears of patients with vaginal discharge.	Dr. Packirisamy Aruna, Asst. Professor, Pathology, JIPMER Karaikal
7	2018-01648	R Kamya	Pathways to care and out of pocket expenditure in childhood tuberculosis: An operational research in a tertiary care centre, Puducherry	Dr. C Palanivel, Associate Professor, Department of Preventive and Social Medicine
8	2018-03805	Snehapriya Thiruman	Assessment of bacteriological quality of potable water in and around Karaikal region of Puducherry state	Dr. D. Jeyakumari, Professor and HOD, Microbiology, JIPMER Karaikal
9	2018-04509	Athira Celine Justine	Relevance of Tumor infiltrating Lymphocytes (TILs) in breast cancer patients treated with neoadjuvant chemotherapy in relation to their ER, PR and HER2/neu status.	Dr. Pampa Ch Toi, Additional Professor, Department of Pathology
10	2018-04977 * kept on	Koustav Pal	Screening for dysplastic cells in the sputum of AFB positive and negative cases from a TB and Chest hospital - a	Dr. M Balamurugan, Professor of Pathology, JIPMER Karaikal

	hold by ICMR		comparative study	
11	2018-03986	Anjali Rajkumar	Accuracy of Apex Pulse Deficit for Detecting Atrial fibrillation	DR. RAJA SELVARAJ, ADDITIONAL PROFESSOR AND HEAD, Cardiology, JIPMER
12	2018-04342	Darshini S P	Association of frontal lobe dysfunction and poor motivation to quit in patients with alcohol dependence	Dr. Balaji Bharadwaj, Associate Professor, Department of Psychiatry
13	2018-02790	Amrita Nayak	Assessment of burden of internet addiction and its association with quality of sleep and cardiovascular autonomic function in undergraduate medical students	Dr. Saranya. K. Assistant Professor, Physiology
14	2018-05677	Sahla Sathar	Non-scholastic abilities and its relationship with social media usage among undergraduate medical students in Puducherry, India	Dr. Ganesh Kumar, Additional Professor, Community Medicine
15	2018-04443	Auroprakash Pal	Assessment of baroreflex sensitivity and heart-rate variability in non-obese and obese type-2 diabetic patients	Dr. B. S. Suryanarayana, Additional Professor, Department of Medicine
16	2018-05209	Devashree Moktan	Factors driving self-medication with antibiotics in Karaikal, Puducherry	Dr S. Shehnaz Ilyas, Associate Professor, Pharmacology, JIPMER Karaikal
17	2018-03992	Aparna S	Prevalence and Predictors of insomnia in patients with cancer— A Cross Sectional study	Dr. Shyama Prem S, Additional Professor, Radiation Oncology
18	2018-00703	Vivek A	Assessment of endothelial dysfunction by Flow Mediated Dilatation in persons with and without ischaemic heart disease.	Dr. Madhusudhanan Ponnusamy, Associate professor, Nuclear Medicine
19	2018-02859	Ria Ann Philip	Assessment and comparison of cognitive function tests in abacus trained and untrained students aged 8-13 years in the South-Indian population.	Dr. Y. Dhanalakshmi, Associate professor of Physiology
20	2018-04760	Shivayan Srivastava	Level of anxiety and depression and its clinical and sociodemographic determinants among the parents of children with cancer on chemotherapy	Dr. Biswajit Dubashi, Additional Professor and HOD, Medical Oncology
21	2018-00588	Soumya Jyoti Raha	Pedometer based physical activity program for nursing staff in a tertiary care hospital in Puducherry - a randomised crossover trial	Dr. Subitha Lakshminarayanan, Associate Professor, P&SM
22	2018-04859	Vignesh. H	Clinicopathological spectrum of Kidney disease in patients with Type 2 Diabetes Mellitus: an observational study	Dr. BH. Srinivas, Associate Professor, Department of Pathology

  
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23	2018-06216	Akarsh VL	kinetic estimated glomerular filtration rate and severity of acute kidney injury in critically ill children: A prospective cohort study.	Dr Ramesh Kumar R, Associate Professor, Department of Pediatrics
24	2018-04885	Adarsh Vijayakumar	Factors related to Shunt infection in Neurosurgery patients - A Case Control Study	Dr. A. Sathia Prabhu, Assistant Professor, Neuro Surgery
25	2018-00356	V.Hamsika	Assessment of hardships faced by families of children with multiple disabilities in accessing multi-disciplinary health care - A comparative study.	Dr. Reena Gulati, Additional Professor, Department of Pediatrics
26	2018-03790	Shangeetha	A study to assess the long term effects of Yoga practice on cardiac autonomic functions among Type II Diabetes patients	Dr. Velkumary, Additional Professor, Physiology
27	2018-03211	Jeevan Gubbala	Radio-pathological characterization of thyroid nodules using new TiRADS score and Bethesda classification	Dr.sadishkumar kamalanathan, Addl prof and Head of the department, Endocrinology
28	2018-07007	Rishab Kaushik Belavadi	Determining the minimal clinically important difference (MCID) of the urticaria activity score and investigating the validity, reliability and responsiveness to change in the Tamil Population	Dr. Laxmisha Chandrashekar, Additional Professor, Department of Dermatology
29	2018-02654	Shahana Singh	omparison of Sick Neonate score and TOPS score in predicting neonatal mortality among extramural neonates transported to a tertiary care hospital in South India	Dr Adhisivam, Additional Professor, Neonatology
30	2018-04057	Shantanu Mahto	Significance of Hemophagocytes in serous body fluid cytology	Dr. N Siddharaju, Professor and Head, Dept of Pathology
31	2018-02324	Ragul Kalaimathi K	Pathways to care and out of pocket expenditure among outpatient attendees at a psychiatric tertiary health care facility, Puducherry	Dr Vikas Menon, Associate Professor, Dept. of Psychiatry
32	2018-06192	Athul MR	Out-of pocket expenditure and other difficulties faced by the Heart Valve replacement patients for attending monthly follow up visits at a Tertiary Care Centre in South India: A Mixed method study	Dr. Hemachandren M, Assistant Professor, Dept. of CTVS
33	2018-04232	Patan Rumaan	Exploring father's influence in berastfeeding promotion: A Qualitative cross-sectional study	Dr Sarthak Das, Assistant professor, Department of Paediatrics



## 10. Prior ICMR-STs proposal acceptance from KGMU, Lucknow

### ICMR-STs 2020

- Nishanth R Subash (MBBS Batch of 2019) for "Effect of Stress and Workload on the empathy of medical residents- A cross-sectional study." | [nishanthrsubash@gmail.com](mailto:nishanthrsubash@gmail.com) |
- Shubhajeet Roy (MBBS Batch of 2019) for "Effects of Diet Components on the sleep quality of first-year medical students." | [shubhajeet5944.19@kgmcindia.edu](mailto:shubhajeet5944.19@kgmcindia.edu) |
- Girjanand Mishra (MBBS Batch of 2019) for "Serum uric acid measurement by using traditional wet chemistry versus dry chemistry fully autoanalyzer." | [girjanandmishra98@gmail.com](mailto:girjanandmishra98@gmail.com) |
- Zareen Akhtar (MBBS Batch of 2018) for "Cross-sectional study to assess knowledge and practices of medical students regarding the evidence-based learning strategies." | [akhtar.zareen@outlook.com](mailto:akhtar.zareen@outlook.com) |
- Saurabh Singh (MBBS Batch of 2018) for "Neuroprotective role of berberine against ROS generation in diabetic mice models." | [ssaurav279@gmail.com](mailto:ssaurav279@gmail.com) |

### ICMR-STs 2019:

- Kaushal Kishor Singh (MBBS, Batch of 2018) for "Comparative study of loss of empathy in undergraduates of different medical colleges." | [kaushal2018@kgmcindia.edu](mailto:kaushal2018@kgmcindia.edu) |
- Shubham Tripathi (MBBS, Batch of 2018) for "Effect of internet-based electronic gadgets on sleep-wake cycle and dietary pattern of medical students." | [shubhamtripathi@kgmcindia.edu](mailto:shubhamtripathi@kgmcindia.edu) |
- Prince Rai (MBBS, Batch of 2018) for "Cross-sectional survey on new patients of arthritis attending Rheumatology OPD to ascertain the pattern of Hydroxychloroquine (HCQ) prescription by the doctors in periphery." | [princerai2018@kgmcindia.edu](mailto:princerai2018@kgmcindia.edu) |

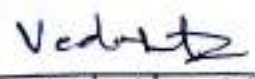
### ICMR-STs 2018:

- Ahmad Ozair (MBBS, Batch of 2016) for "Retrospective clinico-serological analysis of chikungunya cases in a tertiary care referral centre in northern India." | [ahmadozair@kgmcindia.edu](mailto:ahmadozair@kgmcindia.edu) |


### ICMR-STs 2017:

- Shubham Verma (MBBS, Batch of 2015) for "An observational study to record Adverse Drug Reactions (ADRs) in patients co-infected with tuberculosis and HIV."
- Priya Singh (MBBS, Batch of 2015).


Note: The pages that follow provide an ICMR STs proposal that was accepted. It is meant to be a rough example of how to write a proposal, and not one to modelled after with exactness.

  
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12/01/2024  
(Dr. Savita Agarwal)  
Member

  
11/01/2024  
(Dr. R. S. Rajpoot)  
Chairman of the Committee

  
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