GMC, Patiala STS Manual for Undergraduate Medical and Dental Students

Authors:
Preeyati Chopra, MBBS Batch 2017
Diksha Dadlani, MBBS Batch 2017
Gurleen Kaur, MBBS Batch 2018
Amrinder Singh Sidhu, MBBS Batch 2018

Affiliation:
Government Medical College, Patiala, Punjab

Contents of the Manual

1. ICMR STS - What is it?

STS (Short-Term-Studentship) is an initiative by the Indian Council of Medical Research (ICMR) that offers a research opportunity to undergraduate medical and dental students, with the primary aim to make them familiar with research methodologies, scientific writing, and research ethics early in their career as physicians.

Under this program, students can take up independent projects under the mentorship of their professors or can be a part of ongoing projects of their seniors or faculties.

2. Why STS?

STS provides a golden opportunity for students to learn the art of conducting a research study and scientific paper writing. It introduces students to the world of research by giving them hands-on opportunities from writing their own proposal to literature review and compilation of a final report.
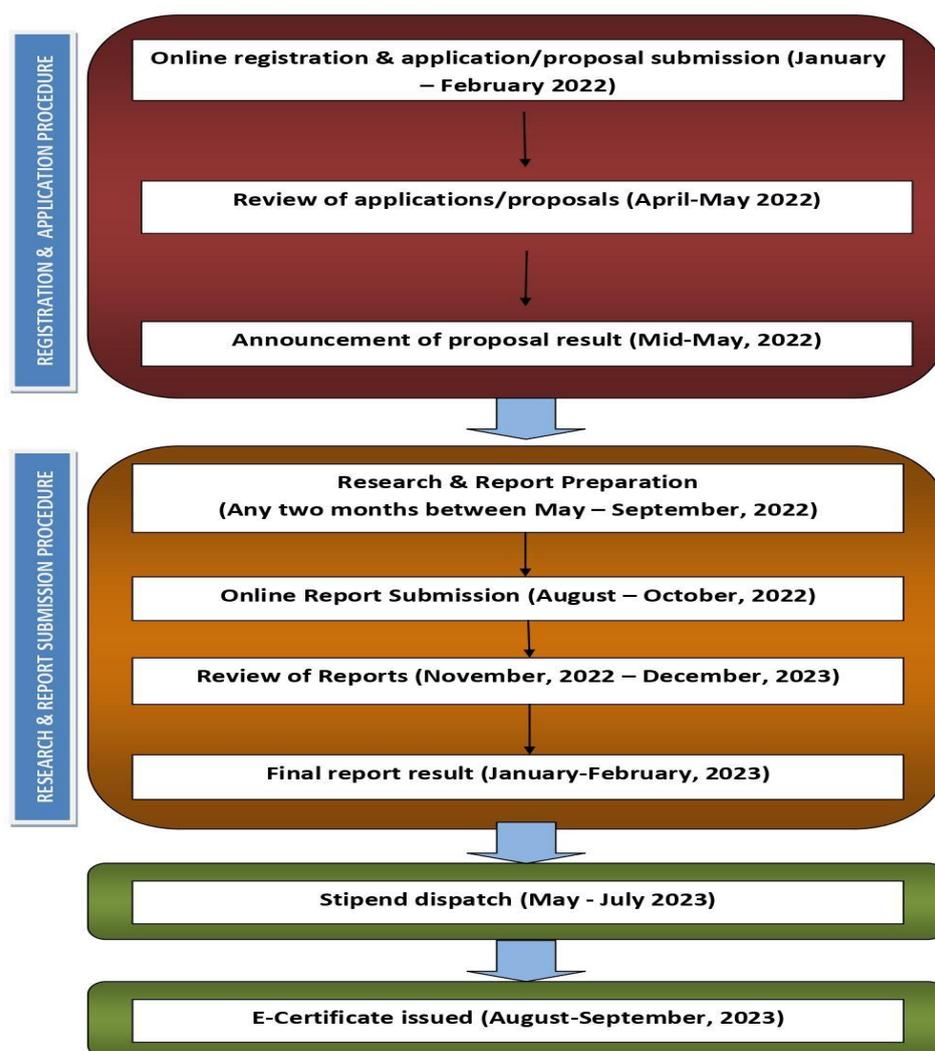
It also enhances the CV of the students and hence boosts their career profile. It motivates the students to take up research even after graduation. In addition to this, as an incentive, students also receive a stipend after approval of the report.

3. STS TIMELINE
Given here is an illustration of the timeline for STS 2022.

The program usually follows a similar timeline every year. Kindly follow the timeline of the year you are planning to submit the proposal.
(http://14.139.60.56:84/STS_Timeline.aspx)

REGISTRATION & APPLICATION PROCEDURE

Online registration & application/proposal submission (January – February 2022)

↓

Review of applications/proposals (April-May 2022)

↓

Announcement of proposal result (Mid-May, 2022)

RESEARCH & REPORT SUBMISSION PROCEDURE

Research & Report Preparation
(Any two months between May – September, 2022)

↓

Online Report Submission (August – October, 2022)

↓

Review of Reports (November, 2022 – December, 2023)

↓

Final report result (January-February, 2023)

Stipend dispatch (May - July 2023)

E-Certificate issued (August-September, 2023)

4. APPROACH TO MAKING YOUR PROPOSAL

A. TOPIC SELECTION
- Choose the domain of your research (a list of various domains is available on the STS website, for example, Biochemistry, Human Genetics, Physiology, 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 SPM.
- 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.**
- While choosing a topic, keep in mind the study design. You can conduct laboratory-based or survey-based research, based on the facilities available, however, **survey-based studies are easier to conduct at the UG level.**
- **Avoid choosing topics that have been extensively researched**, eg: the effect of screen time on the sleep quality of medical students. *Novel ideas have a higher chance of getting selected.*
- In case you don't get any idea of the topic on your own, you can directly approach any faculty. They will surely suggest something to work upon.
- Once you have settled upon a topic, it is imperative to do a literature review of the same. Research is meant to fill the gaps in existing knowledge or dig deeper into a topic, hence it is crucial to know what all work has been done in your selected area.

B. 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.
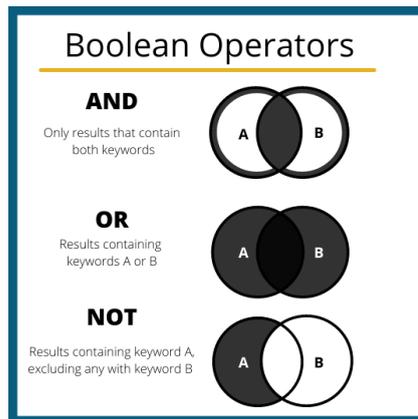
C. LITERATURE REVIEW
Research is based on existing data and the lacunae that exist in it. Hence, it is crucial to have reviewed the existing literature about your topic.

- A lot of the published articles are available on freely available databases such as PubMed and Medline.

(PubMed is a free resource supporting the search and retrieval of biomedical and life sciences literature. The PubMed database contains more than 33 million citations and abstracts of biomedical literature. It does not include full-text journal articles; however, links to the full text are often present when available from other sources.)

- It is recommended to use **"MeSH search"** while doing a literature review. Each article in PubMed is tagged with some specific terms known as MeSH terms. This helps to bring uniformity to the search results. By using MeSH terms, you are more likely to find the articles which are ABOUT your searched term. Think of 'MeSH' terms as the keywords for an article.

- <u>Boolean Operators</u>: AND, OR, and NOT are the Boolean operators which help in refining the search results even further.

- While going through the existing literature, **make a separate document to write the lacunae which you can work upon.** Also, try to maintain a document with the links to the articles you've read (references) which will be useful later in citing references.
- Arrange your information in a rough draft before presenting it to your guide.

Recommended: You can watch tutorials on YouTube regarding "how to use PubMed advanced search" for this:
  1. *https://youtu.be/0lill6yUmk8*
  2. *https://youtu.be/7fWFupz0LVA*
  3. *https://youtu.be/bt1lq64ptt4*

QMed Courses are an excellent way of introducing the world of reviewing the literature and referencing to you. https://www.qmedcourses.in/

D. <u>HOW TO ADD REFERENCES</u>

Let's start with: What is a citation? A citation identifies for the reader the original source for an idea, information, or image that is **referred to** in a work. In the body of a paper, the in-text citation acknowledges the source of information used. At the end of a paper, the citations are compiled on a **References list.**

- For beginners, https://www.citethisforme.com/ is a free-of-cost website that helps us add citations to our proposal or report.
- For the STS Program, the references must be in Vancouver Style. It follows rules established by the International Committee of Medical Journal Editors (ICJME). You can read more about it from:
https://guides.lib.monash.edu/citing-referencing/vancouver
- Once you've added all your citations in the text, you will need to add a list of the references **in the same order** at the end of your report under the heading 'References'.

5. CHOOSING A MENTOR

- 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**.
- In case of transfer of the guide, the student can take another faculty member from the same department as the guide with permission from the same medical/dental college.
- As many of you might be getting into research for the first time, so choosing a good guide is vital for your STS journey to be smooth. Good mentorship is the key to avoiding any discontentment with research methodologies and scientific writing.
- Choosing a mentor who had previously been a guide in the STS program or has had experience in conducting research in their field is of utmost importance!!
- Various other factors you should look for are your guide's availability, relevancy to your topic domain, and approachability.
- Once you have chosen your mentor, explain to them the 'rough draft' you have made about your project.

Proposal submission, as well as report preparation, is not an easy task, so here our guide will be of utmost importance as they will walk us through the process and will help at difficult parts.

6. REGISTRATION

- The link for STS Registration usually gets updated around November-January at http://14.139.60.56:84/Homepage.aspx
- Registration usually remains open for around a month, but try to get registered as soon as possible to avoid any last-minute rush.
- We have to register with our personal details, following which ICMR will provide us with a **Reference ID and password via e-mail.**
- **This reference ID will be your identity throughout our STS journey, so kindly save it in your email/drive and do not forget it.**

A sample of the registration process form can be found through this link:
http://14.139.60.56:84/Download.aspx

7. SUBMISSION OF PROPOSAL

- The proposal is to be submitted at http://14.139.60.56:84/Homepage.aspx 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 (http://14.139.60.56:84/Download.aspx)
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 our Principal. *So, this is quite a time-consuming process and should be planned beforehand.*
   - 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)

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

8. APPLYING FOR ETHICAL APPROVAL

- After submitting the proposal, apply for ethical approval from Institutional Ethical Committee (IEC) at GMC, Patiala.
- **The ethical approval process takes 3-5 months' time, so make sure to apply for it as soon as possible and keep track of your application regularly.**
- 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.
- For a template of the ethical approval request:
  https://drive.google.com/file/d/1SEhNEapyzAtjinAUg5ds_XCbZVqi98kf/view?usp=sharing

9. 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.
- Research should be conducted after appropriate IEC approval has been obtained. The ethical clearance letter has to be submitted along with the final report.
- **IEC approvals should be taken by the deadline mentioned on the ICMR STS website for IEC approval. Any IEC approvals taken after the deadline will not be considered as the student will not get two months of time for carrying out the work and submit the due report by the deadline given.**

10. STATISTICS

- For this step, you may need the help of a statistician unless you've done a course in statistics for medical research.
- 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.

Recommended courses on statistics: https://www.coursera.org/courses?query=statistics

11. REPORT PREPARATION

- Please follow the 'ICMR FORMAT' for your writing of your report. (http://14.139.60.56:84/Prepration_of_report.aspx)
- You might not have hands-on experience in writing a report but there are a couple of courses that can help you:
1. **'Introduction to Clinical Research** by Global Health Training Centre https://globalhealthtrainingcentre.tghn.org/introduction-clinical-research/
2. **'Introduction to Principles & Practices of Clinical Research'** by National Institute for Health (NIH) https://ocr.od.nih.gov/courses/ippcr.html
3. You can always search for free resources via YouTube for an introduction to clinical research methodology.
4. You can also explore workshops by various student organizations which provide you an insight into research methodology for a minimal fee.

- Whenever you feel that you are not able to write the report, approach your mentor for guidance and explain your situation.

- Before submission, it is recommended that you run a grammar check for your report and ensure that your report is grammatically correct. Some suggestions may not be applicable. https://www.grammarly.com/

RESOURCES
- Look for publications relevant to your topic on PubMed or Medline.
- Reading articles relevant to your methodology will help you not only extract important points to be noted while performing the study but also the way of writing your report.
- The scientific writing style is different from the literary writing style. The more articles you read, the better understanding you will develop for writing your own proposal.

 PLAGIARISM CHECK
- Before finalizing your report, you need to check for plagiarism, this can be done online via numerous free platforms eg: https://www.plagramme.com/
- 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.***

12. ONLINE REPORT SUBMISSION

- **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: http://14.139.60.56:84/Downloads.aspx
   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.**

---

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.)

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.

13. WHAT NEXT?

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.**

14. KEY TAKEAWAYS
- 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.

"Believe in yourself. You are braver than you think, more talented than you know, and capable of more than you imagine."
Roy T. Bennett

ICMR STS PROPOSAL ACCEPTANCES FROM GMC, PATIALA
(as of August 2022)

2022

Diksha Dadlani (Batch of 2017)
Supervisor: Dr. Rajnish Raj, Head of Dept, Dept. of Psychiatry
Project Title: Effect of 432 Hz Frequency on Symptoms of Burnout in Medical Students
diksha1dadlani@gmail.com

Gurleen Kaur (Batch of 2018)
Supervisor: Dr. Talvir Sidhu, Assistant Professor, Dept. of Ophthalmology
Project Title: Validation of Self-Visual Acuity Testing by Smart Visual Acuity Applications in the COVID Era.
gurleenkaur19012001@gmail.com

Amrinder Singh Sidhu (Batch of 2018)
Supervisor: Dr. Jasmin Garg, Assistant Professor, Dept. of Psychiatry
Project Title: Screening of Substance Abuse and its Awareness in School Going Children of Two Districts of Punjab: An Online Survey
amarinder2174@gmail.com

Due to COVID-19, ICMR STS Project was not opened for the year 2021.

2020

Preeyati Chopra (Batch of 2017)
Supervisor: Dr. Seema Goel, Associate Professor, Dept. of Skin & VD
Project Title: KAP Survey in Patients of Dermatophytosis in a Tertiary Care Hospital
preeyatichopra@gmail.com

Let us know if we are missing ICMR STS Acceptances from previous batches and we will be more than happy to edit this manual.