

WRITING SHORT TERM STUDENTSHIP (STS)-2023 REPORT

Please follow the 'ICMR FORMAT' given below:

- (a) Reference ID
- (b) Title
- (c) Introduction
- (d) Review of Literature
- (e) Aims and Objectives
- (f) Material and Methods
- (g) Observations and Results
- (h) Discussion
- (i) Conclusion
- (j) Summary
- (k) References

Optional Sections

- (l) Suggestions/Justifications, if any
- (m) Questionnaire/ Study Tool/Patient Information sheet (**Blank format in English Language only**)
- (n) Informed Consent Form (**Blank format in English language only**)

Guidance for Students

Writing a report of your STS project may seem to be a challenge to some of you, but like your practical project work it is an equally important component of your research. Many students carry out very good practical project work but often are unable to write a good report and many others do not consider writing report important. Writing is not a talent reserved for a select few; it is a skill that can be learned. Planning and organization are essential components. It is important that through effort and practice you try to improve your writing abilities. This may probably go a long way in future as an important learning experience. Suggested below is a guide to organize writing your STS report.

Introduction

The introduction should be about one and half to two pages. The purpose of an introduction is to provide the rationale behind the work, so that the reader may understand and appreciate your objectives. Please describe the importance (significance) of the study. Defend the model - why did you use this particular organism or system? What are its advantages? Provide a rationale and describe the reasoning that led you to selecting them. Very briefly describe the experimental design and how it accomplished the stated objectives. Try to provide appropriate references whenever necessary. Present background information only as needed in order to support a position.

Analyze the research work done in a particular topic and identify the gaps in knowledge for which you would like to seek an answer. The research question you intend to ask during the study should be able to provide you a new insight into the problem under question.

Review of Literature

The literature review is a critical look at the existing research that is significant to the work that you are carrying out. You must do a thorough literature search on the topic of your research in order to understand the current status of knowledge on the particular subject which is published in National as well as International journals. You may carry out a PUBMED or MEDLINE search complemented by taking out the full research papers from the library and carefully reading them in order to obtain the most recent and relevant information.

When you have taken out the original articles from the Internet/ Library, you need to summarize relevant research, by first *evaluating* the particular work, show the *relationships* between different works, and show how it *relates* to your work. In other words, you cannot simply give a concise description of, for example, an article: you need to select what parts of the research to discuss (*e.g.* the methodology), show how it relates to the other work as well as *your work*. It should provide the context for your research by looking at what work has already been done in your research area. It is not supposed to be just a summary of other people's work! So analyze and take only the relevant information and present that in your report.

Please Note:

- When you do a literature search remember to keep all references as you would need to put in the References when you prepare your report.
- Do not provide the well known textbook information with textbook references (unless essential), rather give the latest status of research on the topic by quoting recent research papers/ articles on the subject published in journals.
- Do not attach downloaded abstracts from MEDLINE/ PUBMED/ or mention there point wise in with the report as part of review of literature. Analyze and present only the relevant details from the abstracts/full papers.

Aims and Objectives

State your specific hypothesis(es) or objective(s). You may write the aim of the study and primary and secondary objectives if any. Your objectives should be specific and should clearly state what you would be trying to achieve. The objectives should also be to the point and achievable for a two month research study.

Materials and Methods

Materials and methods may be reported under separate sub-headings or incorporated together. Please document all specialized materials and general procedures. Give the study design, type of study, study site, duration of study, number of subject/ samples that were used, inclusion / exclusion criteria, choice of subjects and control, informed consent procedures *etc.* Report the methodology and procedure employed. Describe the methodology completely, including sample collection, processing, lab analysis (if any), statistical tests used for data analysis *etc.*

If well documented procedures were used, report the procedure by name, with reference, For example, the Hb estimation is well known. You need not report the procedure in full – just identify what you used as a standard.

Remember to obtain the Institutional Animal Ethics Committee (IAEC)/Institutional Ethics Committee (IEC) clearance before beginning your study and attach it with the report. Attach format of any questionnaires if used, and also a blank format of Informed consent form (ICF) and Case report form (CRF) in English language. The enclosures can be added in the report or can be separately submitted. Please go through instructions in this regard.

Please Note: Please attach only the blank formats that you use in the study and do not submit the filled/signed in actual CRF's or ICF's with identifiable information about the subjects.

Results

Under this section present and illustrate your findings objectively. Be concise, use figures and tables, to present results most effectively.

- Summarize your findings in text and illustrate them, if appropriate, with figures/ tables.
- In text, describe each of your results, pointing to observations that are most relevant.
- Provide a context, such as by describing the question that was addressed by making a particular observation.
- Describe results of control experiments and include observations that are not presented in a formal figure or table, if appropriate.
- Analyze your data, by statistical tools and then prepare the analyzed (converted) data in the form of a figure (graph), table, or in text form.
- In text, refer to each figure as "figure 1," "figure 2," *etc.* ; number your tables as well
- Both figures and tables, properly numbered, can be placed at the end of the report or within the text of your results section.

Please Note:

- Do not enclose all the raw data without analysis (for *e.g.*, case report forms/clinical proformas of patients/consent forms)
- Please do not discuss or make interpretations of the findings under this section and do that under "Discussion".

Discussion

Provide an interpretation of your results and make comparisons with other studies providing appropriate references. The significance of findings should be clearly described. If your results differ from your expectations, explain why that may have happened. If your results agree, then describe the theory that the evidence supported.

- Decide if each hypothesis is supported, rejected, or if you cannot make a decision with confidence. Do not simply dismiss a study or part of a study as "inconclusive."
- Explain all of your observations as much as possible.
- Decide if the experimental design adequately addressed the hypothesis or not.
- Try to offer alternative explanations if reasonable alternatives exist.
- One experiment will not answer an overall question, so keeping the big picture in mind, where do you go next? Good studies generally open up new avenues of research on remaining questions

Please Note: The mistake that students make is to more or less re-state the results. It is necessary to suggest why results came out as they did, focusing on the mechanisms behind the observations.

Conclusions

Draw appropriate conclusions that you can and based upon the results that you have, and treat the study as a finished work. Explain the significance of your findings and suggest what further research is needed on this topic.

Summary

Write your summary after the rest of the report is completed. Economy of words is important throughout the report, but especially in a summary. Summarize the study, including the following elements in an abstract.

- Purpose of the study - hypothesis, overall question, objective
- Model organism or system and brief description of the experiment
- Results, including specific data- if the results are quantitative in nature, report quantitative data; results of any statistical analysis should be reported
- Important conclusions or questions that follow from the experiment(s)

References

Referencing (also called citing or documenting) your sources means systematically showing what information or ideas you are quoting in your text and where they come from by indicating their source. Give references in your text whenever you state any information from any other source than your own work.

All these references should be given with full details as per **standard Vancouver format** in the report and under References section. In a proper research paper, only original research articles authored by the original investigators should be cited. In citing a journal, use the journal citation (author name, title, journal, year, volume, page numbers).

Please Note:

- **Do not mix two referencing systems. Use a same Vancouver format for all references in the report. It is not a very good idea to include a website or books as a reference unless it is important.** In case you do so, then also mention the date you accessed the information on that particular website, as website information may change from time to time.
- Cite textbook references only if necessary, **most of your references should be from latest research articles published in National/ International Journals in PUBMED.**

Optional Sections

Suggestions/Justifications, If any

In case there are any useful ideas or suggestions or justifications for any minor changes made that have emerged, you may do so.

Questionnaire/Patient Information Sheet (No Identifying information should be present)

In case a questionnaire or any other study tool was used, the same can be included in the report. **Kindly note that only a blank format in English language only (convert it to English language if used in your local language), should be submitted with no identifying information of the research participant or the student or his/her guide.**

Informed Consent Form (No Identifying information should be present)

A blank format for informed consent form in English language (convert it to English language if used in your local language) should be submitted. It should be ensured that there should be no names or identifying information of the student/Guide or Research participant.
