

MedicalBiostatistics.com

TIPS FOR THESIS WRITING AND PREPARING RESEARCH PAPERS

Initial parts of a manuscript

- [Choice of TITLE](#)
- [Providing AUTHORSHIP credits](#)
- [Selection of KEY WORDS](#)
- [Structure of the ABSTRACT](#)

Main body of the report

- [Contents of INTRODUCTION](#)
- [Describing the METHODS](#)
- [Stating RESULTS](#)
- [Writing DISCUSSION](#)

End features of a report

- [Ethics of ACKNOWLEDGMENTS](#)
- [Framing KEY MESSAGES](#)
- [Writing REFERENCES](#)
- [Need of a BIBLIOGRAPHY](#)
- [Contents of APPENDIX](#)

For an updated version, see
Basic Methods of Medical Research, Fourth Edition
by A. Indrayan (<http://indrayan.weebly.com>)
AITBS Publishers, Delhi
(Phones: 011-22009084) (available also at amazon.com)
email: aitbsindia@gmail.com, aitbs@bol.net.in

Structuring the ABSTRACT

Almost all medical journals require that an abstract not exceeding 300 words – sometimes only 150 words – is prepared that contains all salient features of the study. Thesis summary may be in 1000 words. In either case, it is an exercise in précis writing. Brevity and clarity are essential. Decide if it is easier to write abstract in the beginning before the full report. In some situations this can crystallise thoughts and provide framework for the report. After writing the full paper, go back and improve the abstract if new thoughts emerge.

Abstract contains the essence of the work in an intelligible, informative and interesting manner. It should emphasise new and important aspect of the study. Where helpful, include hard data. But they should be in simplest of statistical terms. It should not contain anything that is not included in the main body of the manuscript. The tendency of most journals is to

structure the abstract in Background, Methods, Results, and Conclusions headings. Each of these headings contains two or three sentences, and together should be able to describe the entire research in a coherent manner. These are concise statements of the details described in the next section under each of these headings. All parts of the abstract must be consistent with the main text.

Do not repeat title of the study in the abstract. It begins with rationale to justify the study. Then objectives and questions are precisely stated including a-priori hypothesis. Now choose from the following as applicable to your study. For a trial, state that it is RCT or non-randomised controlled trial; placebo-controlled or controlled for existing treatment; any blinding and criteria of matching if done; cross-over, up-and-down strategy. For observational study, state that it is prospective, retrospective, cross-sectional, or nested. For laboratory investigations, state any available gold, and how your testing compares with gold. For modeling, mention about the training sample and validation sample. Specify that the study setting is community, primary care, referral centre, private clinic, ambulatory care, hospital clinic, admitted patients, etc.

Briefly state the eligibility criteria for the subjects. State whether random sampling was adopted or consecutive, referred, volunteer or convenience sample was drawn. What exactly was intervention and how long did it continue. List the important outcome measures. State confidence intervals, correlation, statistical significance, the difference you considered clinically important, number needed to treat, sensitivity/ specificity and predictivity along with prevalence, etc.

Do not cite references and try to avoid abbreviations. In the end, state both negative and positive conclusions with their practical implications. This list of contents of abstract looks long but you will soon discover after some practice that precise and focused statements are not all that difficult to make. All these are same as discussed in detail under different headings given on top of this page.

Abstract appears as such in indexing services such as MedLine and Excerpta Medica. Thus it should be written as a standalone text for independent reading. That is, it should make sense without reference to the main text. Only those readers who find from Abstract that the full paper could be useful would look into the journal. Thus prepare an abstract in a manner that can persuade the reader to read the full paper. It does not mean that you leave out holes. It only means that the abstract should indicate that it is a good research that needs to be looked into greater detail. Also, since abstract appears in indexes, many would read only this portion. For this reason, abstract should accurately reflect the content of your paper or report.