



Ham University of Medical Sciences

## Thesis Preparation Guideline



# Thesis preparation



## Thesis Preparation Guideline

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# 1 Chapter 1

## 1.1 Introduction

The purpose of a thesis is to demonstrate your proficiency in academic research and appropriate academic communication, both written and oral. A thesis demonstrates your mastery of a particular subject area and your ability to independently create new scientific knowledge. When writing your thesis, your information retrieval skills are developed and your facility for critical and analytical thinking, problem solving and argumentation is strengthened – all of which are skills required for success in your future working life.

The purpose of academic texts is to present new information or, at least, a fresh perspective on the research topic. At the start of writing your thesis, you will already be conversant with the established conventions of academic writing, and so it will be easier for you to devote more attention to the academic content of your work. The process of writing a thesis develops your skills to gather, analyse and make conclusions from data and your ability to independently create new scientific knowledge. Writing a thesis is a way to show your expertise in the topic of your choice on the levels of both theory and practice.

Academic writing has its own particular style, with the emphasis on the subject matter along with precision of expression and the use of grammatically correct language. In addition, academic texts follow rules and conventions that have been generally agreed upon. This manual presents the principles of academic writing as well as the formal writing requirements for theses at Ilam University of Medical Sciences.



## **Thesis Preparation Guideline**

### **1.2 General requirements**

#### **1.2.1 Language**

The thesis should be written either in English or Persian. Language use should be consistent throughout the thesis, especially in terms of spelling (American or British). The Roman alphabet should be used unless otherwise required by the discipline.

#### **1.2.2 Technical Specifications**

The thesis must only be printed on a letter-quality or laser printer. Only the original copy of a thesis or good and clean photocopies will be accepted. Copies with correcting fluid will not be accepted.

#### **1.2.3 Thesis Title**

The title of the thesis should not exceed 20 words.

#### **1.2.4 Page Layout**

The text should be presented in the portrait layout. The landscape layout may be used for figures and tables.

#### **1.2.5 Type of Paper**

White simile A4 size (210mm x 297mm) paper (80g) or paper of equivalent quality should be used. Students must include an extra blank sheet for the front and back of the thesis. Photocopies of the thesis must be on similar quality paper.

#### **1.2.6 Typeface and Font Size**



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The text of the thesis, including headings and page numbers, must be produced with the same font or typeface. The font size should be 12-point times new roman for English text and 14-point B Nazanin for Persian text and should not be scripted or italicized except for scientific names and terms in a different language. Bold print (14-point) should be used for headings. Footnotes and text in tables should not be less than 8-point. Fonts appropriate for a thesis include:

- B Nazanin for Persian text
- Times New Roman for English text

### 1.2.7 Margins

The left margin should be at least 4 cm, and the right, top and bottom margins at least 3 cm. Margin specifications are meant to facilitate binding and trimming.

The first line of each new paragraph should be indented about 1 cm from left side.

All information (text headings, footnotes, and figures), including page numbers, must be within the text area as demarcated by the dotted lines shown on this page.

### 1.2.8 Spacing

The thesis should be 1.5 space, with four spaces between paragraphs and sections. The following, however, should be single-spaced:

- i. Footnotes (if absolutely necessary);
- ii. Quotations of three lines or more, indented and set in a block;
- iii. References or bibliography (except between entries);
- iv. Multi-line captions (tables, figures);
- v. Appendices, such as questionnaires, letters; and vi. Headings or subheadings.



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### 1.2.9 Pagination

All pages should be numbered consecutively throughout the thesis, including pages containing tables, figures and appendices. Page numbers should be centered either centrally or right flushed at either the top or bottom margins. Page numbers should appear by themselves and should not be placed in brackets, be hyphenated or be accompanied by decorative images. Text, tables and figures should be printed on one (1) side of each sheet only.

Preliminary pages preceding Chapter 1 must be numbered in lowercase Roman numerals (i, ii, iii etc). The title page should not be numbered although it is counted as page i. Page 1 is the first page of the Introduction (Chapter 1) but is not numbered.

### 1.2.10 Tables

Ensure that all tables shown in the thesis, including those in the Appendices, are referred to in the text. Tables should be numbered with Arabic numerals throughout the thesis (including both text and appendices). There are two possible numbering schemes: either (a) number the tables consecutively throughout the thesis, e.g. 1, 2, 3 and so on, or (b) number them by chapter, e.g. Table 1.1, Table 1.2 and Table 1.3 to indicate they belong to Chapter 1, Table 2.1, Table 2.2 and Table 2.3 to Chapter 2, and so on.

A table should be on the page following the first reference to it or, if this is not practical as soon as possible in the following pages. When a large table is placed in landscape orientation, the top of the table should be at the binding edge. The table number, title and caption should be single-spaced and placed above the table. The style used must be consistent throughout the thesis. Table sources and notes should be placed directly below the table.

If a table has been adapted from a source, indicate using “Adapted from... “instead of “Source: ...”. Avoid the use of vertical lines to separate columns within a table unless absolutely necessary.



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### 1.2.11 Figures

As with tables, ensure that each figure is referred to in the text. Figures include maps, charts, graphs, diagrams, photographs (or plates), engineering drawings and printed images. They are numbered consecutively or according to the chapter throughout the thesis, including those in the Appendices. The figure number, title and caption should be single-spaced and placed **below** the figure using Arabic numerals and lowercase, except for proper nouns and the first letters of principal words. Figures should be inserted as soon as possible after their first mention in the text. The style used must be consistent throughout the thesis.

### 1.2.12 Equations

All equations, whether mathematical and chemical, are considered as text and numbered according to chapter. If detailed derivation is needed, it is to be placed in an appendix.

### 1.2.13 Footnotes

Footnotes should be used sparingly in any thesis except if required by the discipline. They should be used only to clarify a certain term, or to state conversion factors or exchange rates—not to cite authority for specific statements or research findings. Citations of authority are described below. If footnotes are necessary, footnote indicators (reference numbers in the text) are usually typed in superscript (e.g.1,2). The numbering of footnotes should begin with 1 and must be continuous within each chapter or appendix, and not throughout the whole text.

### 1.2.14 Citations

Students are responsible for choosing a style of citation appropriate to the field and using that style correctly and consistently. Students should consult their respective supervisors for guidelines. The use of software such as EndNote for publishing and managing bibliographies,





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citations and references is encouraged. At the end of the thesis, the student must supply a list of references in alphabetical order by author, with consistent punctuation.

If a figure occupies an entire page, the caption may be typed on the left-hand page (reverse side blank) facing the figure. It is counted but not paginated. The top of a figure drawn in landscape format should be aligned to the binding edge. The figure number, title and caption should be typed parallel to the orientation of the figure. Figures should conform to standard margin requirements. Engineering drawings should follow appropriate standards, with any large size drawings placed as appendices.

### 1.2.15 Header and footers

The use of headers and footers is not allowed.

### 1.2.16 Binding

Before making the required number of copies and binding the thesis, ensure that all University requirements have been met and necessary signatures have been obtained. Check that all pages are in the correct order. The thesis should be bound with a black hard cover and the binding should be of a fixed kind in which pages are permanently secured. The following are requirements for the front cover.

#### A. Thesis Spine (refer to Appendix A for details)

The spine must be entirely lettered in gold, using a 11-point font and must contain the following:

- i. Thesis title;
- ii. Name of student
- iii. Year of submission

#### B. Front Cover



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The front cover must be entirely lettered in gold using gold block font and contain the following:

- i. IUMS Logo;
- ii. Name of the university;
- iii. Department name;
- iv. Degree for which the thesis is submitted;
- v. Title of thesis
- vi. Chairman name
- vii. Supervisory committee names
- viii. Full name of student
- ix. Month and year of submission

\*Please refer to [appendix A](#) to learn more about the thesis spine and front cover.

### 1.2.17 The color of front cover

The color of the front cover for medical doctorate (MD) thesis should be Dark Blue

The color of the front cover for PhD thesis should be Gray

The color of the front cover for Master of science (M.Sc.) thesis should be Blue

### 1.2.18 Submission

Submission of a research thesis is a formal process, like sitting an examination. Because of this, it is very important that you read these guidelines carefully before submitting your thesis.

Navigate to relevant section:

- Submitting for examination
- Submitting after corrections



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### 1.2.18.1 Submitting for examination

#### Intention to Submit

- You must consult your supervisor before submitting a thesis for examination.
- No less than two months before you plan to submit your thesis, you should complete the Notification of intention

It is crucial that you complete the form in good time before you expect to submit. The purpose of this is to:

- Notify your department of your expected submission date, so that it can make the necessary arrangements for your examination, including appointing your examiners;
- automatically generate all the forms required for the examination of your thesis.

You do not need to be over exact in calculating your submission date, provided that you adhere to your deadline for submission.

#### Final checks

Before submitting your thesis, you should check carefully that it is the version you wish to be examined, and that it contains no accidental errors or omissions. Please note that it is not normally possible to retrieve your thesis from Research Student Administration once it has been submitted.

#### Presentation of your thesis

Your thesis should be presented in accordance with the University's requirements, and may not be accepted for examination if it does not.

Please follow the structures in this booklet carefully, and in good time before your submission.

#### How do I submit my thesis?

Students are required to submit a soft copy of their thesis using the following link:  
<https://newresearch.medilam.ac.ir/>

### 1.2.18.2 Submitting after correction



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Students are required to submit the following documents:

- i. If you are a master student: Submit five (5) soft-bound copies of the thesis
- ii. If you are a PhD student: Submit eight (8) soft-bound copies of the thesis
- iii. one (1) softcopy of the thesis on CD (both PDF and word version of the thesis):  
Students are required to submit a bound copy of the thesis to the department research expert
- iv. Students are required to submit a bound copy of the thesis to every member of their respective supervisory committees.
- v. Students are required to submit a bound copy of the thesis to the central library of the university
- vi. Students are required to submit a bound copy of the thesis to the department
- vii. Students are encouraging to keep printed or electronic form of the thesis



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### 2 Chapter 2: Thesis format

The following describes what is generally known as the conventional format of a thesis. A thesis generally consists of three main parts: preliminary pages; text or main body (usually divided into chapters and sections), and supporting pages, containing references/bibliography, appendices, and biodata of the student. If applicable, a list of publications resulting from the study carried out during the period of candidature where the student is the first or principal author should be inserted after the student's biodata page.

The preliminary pages include the title page, dedication, acknowledgement, abstracts in English, table of contents, and lists of tables, figures and abbreviations.

The typical layout of a thesis is shown in Table 1. The entire thesis should be bound in a single volume. However, in cases when appendices are particularly long, the thesis may be bound in two volumes. In such cases, the second volume should contain the appendices only, and shall begin its pagination with page 1.

The second volume should contain a list of appendices immediately before the appendices. References, the student's biodata and list of publications should stay within the first volume in the sequence shown above.

#### 2.1 Title Page

The title page should include the following:

- i. IUMS Logo;
- ii. Name of the university;
- iii. Department name;
- iv. Degree for which the thesis is submitted;
- v. Title of thesis
- vi. Chairman name
- vii. Supervisory committee names
- viii. Full name of student
- ix. Month and year of submission



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\* Please note that a copyright statement must be included in the title page immediately following the year of submission section. This copyright must state that the thesis is the intellectual property of Ilam university of medical sciences.

**Table 1:** Thesis Structure

No.	Item	Remark
1	Blank page	Not to be paginated
2	In the name of god page	Not to be paginated
3	Title page	Not to be paginated but counted as i. *This page is exactly like the cover page of the thesis. *Please note that a copyright statement must be included in the title page immediately following the year of submission section. This copyright must state that the thesis is the intellectual property of Ilam university of medical sciences
4	Dedications (if any)	The Dedication page is optional and can be deleted if you decide not to use it.
5	Acknowledgements	Acknowledgements are written expressions of appreciation for guidance and assistance received from individuals and institutions.
6	Abstract	See section 2.2
7	Table of Contents	See section 2.3
8	List of Tables	See section 2.4
9	List of Figures	See section 2.5
10	List of Abbreviations/ Notations/Glossary of Terms	See section 2.6
11	Body of Thesis	Numbered consecutively from 1 onwards. See Section 2.7
12	References/Bibliography	See section 2.8
13	Appendices	See section 2.9
14	List of Publications	See section 2.10



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### 2.2 Abstract

The abstract is a digest of the entire thesis and should be given the same careful attention as the main text. It should not include any references. Abbreviations or acronyms must be preceded by the full terms at the first use. An abstract should not exceed 300 words. It includes a brief statement of the problem and objectives of the study, a concise description of the research method and design, a summary of the major findings including their significance, and conclusions.

**\*Thesis Keywords:** Keywords are important words/concepts found in your research question or thesis. Provide at least 3 to 10 keywords using medical subject heading (MESH) <http://www.ncbi.nlm.nih.gov/sites/entrez?db=mesh>.

### 2.3 Table of content

The Table of Contents lists in sequence all relevant subdivisions of the thesis with their corresponding page numbers.

### 2.4 List of tables

The list shows the exact titles or captions of all tables in the text and appendices, together with the starting page number of each table, and must be listed in sequence. Please be noted that the table legend should be placed above the table.

### 2.5 List of figures

Figures include graphs, maps, charts, engineering drawings, photographs (plates), sketches, printed images, and any other form of illustration that is not a table. The exact titles or captions and their corresponding page numbers must be listed in sequence. Figures, including any in the appendices, should be numbered consecutively throughout the thesis.



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### **2.6 List of Abbreviations/Notations/Glossary of Terms**

If abbreviations and acronyms are used in the thesis, they should be explained in a List of Abbreviations, even though the full names are given at first use. This list should be the last item in the preliminary section. It serves as a ready reference to readers not familiar with the abbreviations used in the thesis. Universally recognized scientific symbols (such as CO<sub>2</sub>, cm, mm, kg, ha) need not be listed.

### **2.7 Body of the thesis**

The body of a thesis normally consists of sections which are organized as chapters. A chapter may be divided into major sections and subsections. Main or primary headings within chapters are to be centered while sub-headings are left justified. Tertiary headings are indented five (5) spaces and are not listed in the Table of Contents.

#### **2.7.1 Chapter 1 (Introduction)**

The purpose of the first chapter is to lead the readers to the theme of the thesis and arouse their interest in the topic. The introduction normally contains the following issues:

##### **2.7.1.1 Background**

Research background is a brief outline of the most important studies that have been conducted so far presented in chronological order. Research background should also include a brief discussion of major theories and models related to the research problem. When writing research background, you also need to demonstrate how your research relates to what has been done so far in this research area.

##### **2.7.1.2 Problem statement**





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A research problem is a statement about an area of concern, a condition to be improved, a difficulty to be eliminated, or a troubling question that exists in scholarly literature, in theory, or in practice that points to the need for meaningful understanding and deliberate investigation. In some social science disciplines the research problem is typically posed in the form of a question.

\*A research problem does not state how to do something, offer a vague or broad proposition, or present a value question.

### **The purpose of a problem statement is to:**

1. Introduce the reader to the importance of the topic being studied. The reader is oriented to the significance of the study and the research questions or hypotheses to follow.
2. Places the problem into a particular context that defines the parameters of what is to be investigated.
3. Provides the framework for reporting the results and indicates what is probably necessary to conduct the study and explain how the findings will present this information.

### **2.7.1.3 Significance of the study**

The significance of the study is a written statement that explains why your research was needed. It's a justification of the importance of your work and impact it has on your research field, it's contribution to new knowledge and how others will benefit from it.

### **2.7.1.4 Research objectives**

The final part of clarifying your research project involves thinking in more detail about your research objectives. Research objectives should be closely related to the statement of the problem and summaries what you hope will be achieved by the study. For example, if the problem identified is low utilization of antenatal care services, the general objective of the study could be to identify the reasons for this low uptake, in order to find ways of improving it.

Writing your research objectives clearly helps to:

- Define the focus of your study



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- Clearly identify variables to be measured
- Indicate the various steps to be involved
- Establish the limits of the study
- Avoid collection of any data that is not strictly necessary.

Objectives can be general or specific. The general objective of your study states what you expect to achieve in general terms. Specific objectives break down the general objective into smaller, logically connected parts that systematically address the various aspects of the problem. Your specific objectives should specify exactly what you will do in each phase of your study, how, where, when and for what purpose.

Your objectives should be stated using action verbs that are specific enough to be measured, for example: to compare, to calculate, to assess, to determine, to verify, to calculate, to describe, to explain, etc. Avoid the use of vague non-active verbs such as: to appreciate, to understand, to believe, to study, etc., because it is difficult to evaluate whether they have been achieved.

### 2.7.1.5 Research hypothesis

A hypothesis is a tentative answer to a research problem that is advanced so that it can be tested. Developing hypotheses requires that you identify one character, variable, or descriptor of a sampling unit that causes, effects, or has an influence on, another character, variable, or descriptor of the same or other sampling units. The character, variable, or descriptor that affects other variables or sampling units is called the independent variable. The character, variable, or descriptor which is affected by the independent variable is called the dependent variable or response variable.

Note that although for the purposes of research methodology some variables may be called 'dependent' when investigating their relationship with other 'independent' variables, this does not imply the existence of a causal (as compared with associative) relationship unless strict rules of research design are followed. This issue is discussed in more detail later in the module.



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There are two criteria for good hypotheses. One, hypotheses are statements about relationships between variables. Two, hypotheses carry clear implications for testing the stated relationships. These criteria mean, then, that hypothesis statements contain two or more variables that are measurable or potentially measurable and that they specify how the variables are related.

### **2.7.1.6 Definition of terms**

This section gives your readers an understanding of the concepts or factors that will be discussed throughout your study, as well as contextual information as to how you will be using those concepts in your study.

#### **2.7.1.6.1 Operational definition of terms**

Operational definition of terms refers to a detailed explanation of the technical terms and measurements used during data collection. This is done to standardize the data. Whenever data is being collected, it is necessary to clearly define how to collect the data.

#### **2.7.1.6.2 Conceptual definition of terms**

A conceptual definition describes a thing in terms of its abstract characteristics and relationships to other conceptual entities.

### **2.7.2 Chapter 2 (literature review)**

#### **2.7.2.1 Theoretical framework**

Theories are formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge within the limits of critical bounding assumptions. The theoretical framework is the structure that can hold or support a theory of a research study. The theoretical framework introduces and describes the theory that explains why the research problem under study exists.

A theoretical framework consists of concepts and, together with their definitions and reference to relevant scholarly literature, existing theory that is used for your particular study. The



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theoretical framework must demonstrate an understanding of theories and concepts that are relevant to the topic of your research paper and that relate to the broader areas of knowledge being considered.

The theoretical framework is most often not something readily found within the literature. You must review course readings and pertinent research studies for theories and analytic models that are relevant to the research problem you are investigating. The selection of a theory should depend on its appropriateness, ease of application, and explanatory power.

### **The theoretical framework strengthens the study in the following ways:**

An explicit statement of theoretical assumptions permits the reader to evaluate them critically. The theoretical framework connects the researcher to existing knowledge. Guided by a relevant theory, you are given a basis for your hypotheses and choice of research methods. Articulating the theoretical assumptions of a research study forces you to address questions of why and how. It permits you to intellectually transition from simply describing a phenomenon you have observed to generalizing about various aspects of that phenomenon. Having a theory helps you identify the limits to those generalizations. A theoretical framework specifies which key variables influence a phenomenon of interest and highlights the need to examine how those key variables might differ and under what circumstances. By virtue of its applicative nature, good theory in the social sciences is of value precisely because it fulfills one primary purpose: to explain the meaning, nature, and challenges associated with a phenomenon, often experienced but unexplained in the world in which we live, so that we may use that knowledge and understanding to act in more informed and effective ways.

### **2.7.2.2 Conceptual framework**

A conceptual framework is a written or visual representation of an expected relationship between variables. Variables are simply the characteristics or properties that you want to study.

The conceptual framework is generally developed based on a literature review of existing studies and theories about the topic. A conceptual framework can be designed in many different ways. The form yours takes will depend on what kinds of relationships you expect to find.



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### 2.7.2.3 literature review

A literature review is a search and evaluation of the available literature in your given subject or chosen topic area. It documents the state of the art with respect to the subject or topic you are writing about.

A literature review has four main objectives:

- It surveys the literature in your chosen area of study
- It synthesizes the information in that literature into a summary
- It critically analyses the information gathered by identifying gaps in current knowledge; by showing limitations of theories and points of view; and by formulating areas for further research and reviewing areas of controversy
- It presents the literature in an organized way

A literature review shows your readers that you have an in-depth grasp of your subject; and that you understand where your own research fits into and adds to an existing body of agreed knowledge.

Here's another way of describing those four main tasks. A literature review:

- Demonstrates a familiarity with a body of knowledge and establishes the credibility of your work;
- Summarizes prior research and says how your project is linked to it;
- Integrates and summarizes what is known about a subject;
- Demonstrates that you have learnt from others and that your research is a starting point for new ideas.

A literature review is a type of critical review in which you analyze and evaluate many sources on a specific topic. The purpose is to provide your reader with an overview of the research that has been done on your topic, and to evaluate the sources you are reviewing. You will probably include less detailed information on each source than you would in a critical review of a single book or article. Instead, you will focus on the most important points relevant to your topic.



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As in a critical review, you'll evaluate the effectiveness of the authors' arguments. You'll also point out areas where much research has been done, as well as areas where more research still needs to be done. It's also important to compare sources with each other, pointing out where they agree or disagree with one another. Remember, you also need to provide an evaluation explaining which authors' writing you find more persuasive, and why.

Finally, you will draw conclusions from your findings, describing what the literature as a whole suggests about your topic. Remember to take into consideration your evaluations of the relative effectiveness of the different authors' arguments. If there are important aspects of the topic that have not yet been fully researched, you might not be able to reach definite conclusions. If this is the case, you can discuss why more research is needed.

Evaluation (Critique) of the Article or Book: This is the most important section of your essay. Remember, you're not writing about whether you agree with the author or not; rather, it's your job to decide how effective the author's argument is. Here are some criteria you can use to decide:

- Is the applied research methodology suitable? Is the research methodology was chosen with proper justification? Is the writing clear?
- Is the sampling process clearly described?
- Is the number of calculated sample size adequate?
- Are appropriate research tools selected?
- Is the validity and reliability of the applied research tool stated?
- Is the method of data collection clearly and explicitly stated?
- Are the extraneous variables controlled or properly explained?
- Is the writing clear? Does the author's writing style make his or her argument clear, or does it create unnecessary confusion?
- ii. How strong is the author's argument? Do the author's main points back up the argument effectively? Is the argument logically organized?



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- iii. Are there indications of bias? Does the author mention all sides of an issue, or does he or she leave out important counter-arguments? What do you know about the author? Is there anything in the author's background that might have caused bias?
- iv. What are the author's sources? Are they reliable? Does he or she use predominantly one type of source? Are the author's sources appropriate to his or her argument?
- v. Which aspects of the author's argument do you find most convincing? Least convincing?

### 2.7.3 Chapter 3: Research Methodology

Research methodology is the specific procedures or techniques used to identify, select, process, and analyze information about a topic. In a research paper, the methodology section allows the reader to critically evaluate a study's overall validity and reliability.

#### 2.7.3.1 Research design

Research design is the framework of research methods and techniques chosen by a researcher. The design allows researchers to hone in on research methods that are suitable for the subject matter and set up their studies up for success. The design of a research topic explains the type of research (quantitative, qualitative, and mixed method).

**Qualitative:** Qualitative research refers to research that focuses on collecting and analyzing words (written or spoken) and textual data, whereas quantitative research focuses on measurement and testing using numerical data. Qualitative analysis can also focus on other "softer" data points, such as body language or visual elements. It's quite common for a qualitative methodology to be used when the research aims and objectives are exploratory in nature. For example, a qualitative methodology might be used to understand peoples' perceptions about an event that took place, or a candidate running for president.

**Quantitative:** A quantitative methodology is typically used when the research aims and objectives are confirmatory in nature. For example, a quantitative methodology might be used to



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measure the relationship between two variables (e.g. personality type and likelihood to commit a crime) or to test a set of hypotheses.

**Mixed method:** The mixed-method methodology attempts to combine the best of both qualitative and quantitative methodologies to integrate perspectives and create a rich picture.

### 2.7.3.2 Research population

A population is an entire group that you want to draw conclusions about.

### 2.7.3.3 Research sample

In research terms, a sample is a group of people, objects, or items that are taken from a larger population for measurement. The sample should be representative of the population to ensure that we can generalize the findings from the research sample to the population as a whole.

### 2.7.3.4 Inclusion and exclusion criteria

Inclusion criteria are characteristics that the prospective subjects must have if they are to be included in the study. Exclusion criteria are those characteristics that disqualify prospective subjects from inclusion in the study.

### 2.7.3.5 Sample size calculation

Sample size determination is the act of choosing the number of observations or replicates to include in a statistical sample. The sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. In practice, the sample size used in a study is usually determined based on the cost, time, or convenience of collecting the data, and the need for it to offer sufficient statistical power. In complicated studies there may be several different sample sizes: for example, in a stratified survey there would be different sizes for each stratum. In a census, data is sought for an entire population, hence the intended sample size is equal to the population. In experimental design, where a study may be divided into different treatment groups, there may be different sample sizes for each group.





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Sample sizes may be chosen in several ways:

- Using experience – small samples, though sometimes unavoidable, can result in wide confidence intervals and risk of errors in statistical hypothesis testing.
- Using a target variance for an estimate to be derived from the sample eventually obtained, i.e. if a high precision is required (narrow confidence interval) this translates to a low target variance of the estimator.
- Using a target for the power of a statistical test to be applied once the sample is collected.
- Using a confidence level, i.e. the larger the required confidence level, the larger the sample size (given a constant precision requirement).

The sample is the group of individuals who will actually participate in the research.

### **2.7.3.6 Sampling method**

To draw valid conclusions from your results, you have to carefully decide how you will select a sample that is representative of the group as a whole. There are two types of sampling methods:

Probability sampling involves random selection, allowing you to make strong statistical inferences about the whole group. Non-probability sampling involves non-random selection based on convenience or other criteria, allowing you to easily collect data. You should clearly explain how you selected your sample in the methodology section of your paper or thesis.

### **2.7.3.7 Study setting/study location**

The study area is selected purposively. purposive selection of the area is due to the fact that no studies have been conducted in this area on this topic. The researcher also selects this topic because of the severity of the problem in this study area.

### **2.7.3.8 Data collection tool**



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Data collection tools refer to the devices/instruments used to collect data, such as a paper questionnaire or computer-assisted interviewing system. Case Studies, Checklists, Interviews, Observation sometimes, and Surveys or Questionnaires are all tools used to collect data.

### **2.7.3.9 Data collection procedure**

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes.

### **2.7.3.10 Reliability and validity**

Reliability and validity are concepts used to evaluate the quality of research. They indicate how well a method, technique or test measures something. Reliability is about the consistency of a measure, and validity is about the accuracy of a measure.

It's important to consider reliability and validity when you are creating your research design, planning your methods, and writing up your results, especially in quantitative research.

### **2.7.3.11 Data analysis**

Data Analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data.



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The following tips can help you to precisely define your methodology:

**Data collection:** Include enough detail that your study can be replicated by others in your field, even if they may not get the same results you did.

**Describe how you overcame obstacles:** Overcoming obstacles in your research can be one of the most important parts of your methodology. Your problem-solving abilities can enhance your readers' confidence in the results of your study. If you encountered any problems as you collected data, explain clearly the steps you took to minimize the effect that problem would have on your results.

**Distinguish your research from any weaknesses in your methods:** Every research method has strengths and weaknesses. Briefly discuss the weaknesses or criticisms of the methods you've chosen, then explain how those are irrelevant or inapplicable to your particular research. Reading other research papers is a good way to identify potential problems that commonly arise with various methods. State whether you actually encountered any of these common problems during your research.

**Explain how your analysis suits your research goals:** Ultimately, your overall methodology should be capable of producing answers to your research questions. If it isn't well-suited, you need to either adjust your methodology or reframe your research question. For example, suppose you're researching the effect of college education on family farms in rural America. While you could do interviews of college-educated people who grew up on a family farm, that would not give you a picture of the overall effect. A quantitative approach and statistical analysis would give you a bigger picture.

**Assess whether your findings can be transferred or generalized:** You may be able to transfer your findings to other contexts or generalize them to broader populations. Transferability can be difficult in social science research, particularly if you used a qualitative approach. Generalization is more typically used in quantitative research. If you have a well-designed sample, you can statistically apply your results to the larger population your sample belongs to.



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### 2.7.3.11.1 Preparing to run a randomized clinical trial

1. State clearly the aims and objectives of your trial. Distinguish between primary and secondary objectives.
2. Decide on the hypothesis your study will test. “Good hypotheses are specific and formulated in advance of commencement (a priori) of the study”. The SMART criteria can help you to check your hypothesis is clear (Specific, Measurable, Attainable, Relevant, Time bound).
3. Are you planning to study a significant problem, is it relevant to the population you are working with? Have you consulted with the community to determine whether the research question is a shared concern? Will it be generalizable to other populations? i.e. will the results of your study be useful to people working in other communities/hospitals/situations? Or is it very peculiar to your site?
4. Have you done a thorough literature review so that you know what has already been discovered in this area and what has been tried and failed? This will help you refine your hypothesis.
5. Consider whether you need to run a pilot study (a small-scale version) before your trial. If so this needs to be included in the protocol and is subject to ethics review. After the pilot, you will need to refine your trial methods appropriately, adjust the protocol, and ensure ethics review is obtained for the adjusted version.
6. Define your primary and secondary outcomes that match your aims and objectives – what will you measure in your participants to determine that you have a clinically meaningful improvement (or worsening) that may be due to your intervention? What will be the primary outcomes that will help you evaluate your hypothesis? (e.g. weight gain after 4 weeks). Will there be other outcomes that you want to measure to help you answer your questions? (e.g. upper arm measurement). Strictly define all outcomes and how they will be measured. Remember to assess all relevant baseline measures. Decide how often and when to measure for changes
7. A decision must be made on what constitutes (serious) adverse events and reactions and a plan of action if they occur.
8. Define your target population and decide how you will recruit a representative sample to your study population to make your results as generalizable as possible. Who will be included in the



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study? E.g. children under 5 years admitted to Hospital X children's ward with disease Y between April and Sept 2011. Do you have exclusion criteria? (e.g. exclude from the study if allergy to drug X or severe malnutrition or taking part in other study). Remember that in many trials recruitment is slower and more difficult than anticipated. Define who will be in your analysis: i.e., whether per protocol (includes only those patients who completed the treatment originally allocated. If done alone, this analysis leads to bias) or intention to treat analysis = "Patients are analyzed within the group to which they were allocated, irrespective of whether they experienced the intended intervention.

9. How will you make sure that you can obtain informed consent from all trial participants? Consider language and local/cultural issues when obtaining consent. Will you give compensation for their time/travel to the participants, and how often, and in what form? Are the participant's children, if so is there a caretaker who is legally permitted to authorize consent?
10. Sample size calculation. Involve a statistician or epidemiologist! You need to know how many participants you will need to include in your trial to obtain statistically significant results. This will influence the design, duration, and costs of your trial.
11. Work out how you will randomize your participants. There are different ways you can randomly allocate your patients to different arms of the study (e.g. stratified, or clustered). A statistician or epidemiologist can easily do it, but it needs to be done properly to reduce the chance of bias and confounding in your results.
12. Who can be blinded in your study? Are you going to be able to blind the participants? The staff who administer the intervention (double-blinding)? The staff who measure the outcomes? The people who analyze the data? Is it ethical/practical to blind everyone? Can you arrange rapid unbinding in case of emergency?
13. Clearly define the intervention(s) you want to test. When, how, how much should be given.
14. If the comparison of drugs is involved, you (with the assistance of your pharmacy department) will need to look for an appropriate producer, get an agreement and contract.
15. What will be your control intervention? Is there a current treatment that you are comparing the new intervention against? Do you need to produce a placebo that looks the same as your



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intervention? If you are using blinding, then you will need to make sure that all treatments look the same to both patients and staff treating the patients. If comparing drugs, you need to make sure your pharmacy department can help.

16. Data management: How will data be collected – Will you use paper forms? An electronic database? Who will transcribe data from form to database and how will you ensure that errors are minimized? Will you use an existing electronic database or do you require a new database? Do you need a 3-dimensional or 2-dimensional database (e.g. Excel)? Data quality - who will do data entry, what supervision is required, what quality checking and data cleaning (double data entry? field limits, cross checking entries with raw data?) Backup of databases - where will they be kept; how often will they be backed up? Who will have access to the data and electronic databases? Long-term storage of raw and electronic data: in clinical trials especially if of a new drug or diagnostic, data must be kept for a minimum of 3 years and often more. Where will electronic records be safely stored ensuring the protection of confidentiality? If there are paper data collection forms arrangements are needed for these to be boxed and sent back to Amsterdam/relevant operational center
17. Develop standard operating procedures for the trial methodologies and quality control procedures. Make a TOR (terms of reference, an outline of their role) for the local person on your research team (this person represents his/her population and represents MSF back to the population), make a TOR for key functions (e.g. field research coordinator).
18. Make a time line, expected date of starting, recruitment rate, expected period of data gathering. Make a budget; review the budget before the start as inflation can change salaries and transport considerably.
19. Consider the ethical issues in your research: Our patients are usually extremely vulnerable and we have an obligation to ensure that research maximizes benefit versus harm. In addition to scientific validity, informed consent, confidentiality and the harm-benefit ratio of proposed studies, it is important to ensure that the study population is engaged in a collaborative partnership (e.g. local researchers are included and the community is involved) and benefits fairly from any resulting rewards of research. The social value of proposed research is also important to weigh and mechanisms should be included to increase this (e.g. by dissemination



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of knowledge, ensuring access to drugs/treatments found effective, supporting the local health infrastructure).

20. How will your results be disseminated and used for advocacy? Publication is a first step but is NOT the most important aim of an RCT (or any other trial). Why do we carry out these costly and resource-intensive trials? To learn more about diseases and new treatment, to help decide if policies and guidance needs to be reviewed/ changed, to improve the lives of our patients. Make sure the results of your study are USED! Whether you prove or disprove your hypothesis, if your trial was well designed and you were studying a significant problem, then your results will be helpful to inform treatment locally, nationally or even internationally. So make an advocacy plan about how you are going to let the right people hear about your results (involve the public health department). Think about how to disseminate your results widely.

### 2.7.3.12 Research limitations

The limitations of the study are those characteristics of design or methodology that impacted or influenced the application or interpretation of the results of your study. They are the constraints on generalizability and utility of findings that are the result of the ways in which you chose to design the study and/or the method used to establish internal and external validity.

Keep in mind that acknowledgment of a study's limitations is an opportunity to make suggestions for further research. If you do connect your study's limitations to suggestions for further research, be sure to explain the ways in which these unanswered questions may become more focused because of your study.

### 2.7.3.13 Ethical considerations

Ethical Considerations can be specified as one of the most important parts of the research. Dissertations may even be doomed to failure if this part is missing.



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According to Bryman and Bell (2007) (1) the following ten points represent the most important principles related to ethical considerations in dissertations:

1. Research participants should not be subjected to harm in any ways whatsoever.
2. Respect for the dignity of research participants should be prioritized.
3. Full consent should be obtained from the participants prior to the study.
4. The protection of the privacy of research participants has to be ensured.
5. Adequate level of confidentiality of the research data should be ensured.
6. Anonymity of individuals and organizations participating in the research has to be ensured.
7. Any deception or exaggeration about the aims and objectives of the research must be avoided.
8. Affiliations in any forms, sources of funding, as well as any possible conflicts of interests have to be declared.
9. Any type of communication in relation to the research should be done with honesty and transparency.
10. Any type of misleading information, as well as representation of primary data findings in a biased way must be avoided.

In order to address ethical considerations aspect of your dissertation in an effective manner, you will need to expand discussions of each of the following points to at least one paragraph:

1. Voluntary participation of respondents in the research is important. Moreover, participants have rights to withdraw from the study at any stage if they wish to do so.
2. Respondents should participate on the basis of informed consent. The principle of informed consent involves researchers providing sufficient information and assurances about taking part to allow individuals to understand the implications of participation and to reach a fully informed, considered and freely given decision about whether or not to do so, without the exercise of any pressure or coercion (2).
3. The use of offensive, discriminatory, or other unacceptable language needs to be avoided in the formulation of Questionnaire/Interview/Focus group questions.
4. Privacy and anonymity of respondents is of a paramount importance.





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5. Acknowledgement of works of other authors used in any part of the dissertation with the use of Harvard/APA/Vancouver referencing system according to the Dissertation Handbook
6. Maintenance of the highest level of objectivity in discussions and analyses throughout the research



Please be noted that the ethical approval letter should be attached in your thesis (only for those studies involving human subjects)

### 2.7.4 Chapter 4: Results

The topics below are typically included in this chapter, and often in this order (check with your Chair):

- Introduction
  - Remind the reader what your research questions were
    - In a qualitative study you will restate the research questions
    - In a quantitative study you will present the hypotheses
- Findings (qualitative), Results (quantitative), and Discussion (quantitative)
  - In a qualitative study the information to be reported is called findings. Findings are those themes that have emerged from or have been found in the data you collected. They are the product of your analysis.
  - In a quantitative study the results of the quantitative analyses conducted may be presented on their own, without any accompanying connections to the larger literature.
  - When quantitative data are presented without any accompanying explanation a discussion section is presented separately in order to explain the meaning of the results.

### 2.7.5 Chapter 5: Discussion, Conclusion, Recommendations, And Research Implications

This chapter is important since it illustrates the significance of the study and stresses the findings upon which a conclusion or conclusions are drawn in line with the objectives set, acknowledges the limitations, and suggests further research which may be carried out on the topic. The significance and implications of the main findings should be made clear.



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### 2.8 References/bibliography

The References or Bibliography section contains the list of works cited in the thesis. students are advised to follow Vancouver reference style. Students should check for the latest versions of different reference styles.

When a source has more than one author, their names are separated by commas. If a source has more than six authors, list the first six followed by ‘et al.’

<b>1 author</b>	Shields G.
<b>2–6 authors</b>	Johnson FH, Singh J.
<b>7+ authors</b>	James F, Pieters J, Deptford G, Harrison R, Bregman E, Empson A, et al.

#### 2.8.1 Numbering references

Sources are numbered based on the order in which they are cited in the text: the first source you cite is 1, the second 2, and so on.

If the same source is cited again, use the same number to refer to it throughout your paper. This means that the numbers might not appear in consecutive order in your text:

Collins et al. (1) argue that this technique is highly effective. However, another study (2) conducted into the technique has raised doubts about the replicability of these results. Collins et al.’s conclusion that the technique is ready for ‘large-scale application’ (1, p. 15) in medical practice should therefore not be accepted without further investigation.

#### 2.8.2 Citing multiple sources

You can also cite multiple sources in the same place:

Several studies (8, 12) indicate a similar effect.

To cite several sources that appear consecutively in your numbered list, you can use an en dash to mark the range.



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There is a large body of research (1, 4–7) exploring this phenomenon.

In this case, the citation refers the reader to sources 1, 4, 5, 6, and 7.

### 2.8.3 Creating a Vancouver reference list

Your reference list is where you provide the information your readers will need in order to look up the sources cited in your text. It consists of a numbered list of all your sources, providing key information including the author, title and publication date of each source.

The list appears in numerical order at the end of your paper. Each entry ends with a full stop, unless the last element is a DOI or URL.

Examples of a reference list:

1. Parkin DM, Clayton D, Black RJ, Masuyer E, Friedl HP, Ivanov E, et al. Childhood Leukemia in Europe after Chernobyl: 5 Year Follow-up. Br J Cancer 1996; 73(8):1006-12.

### 2.8.4 Vancouver reference examples

The information you provide differs according to the type of source you're citing, since different details are relevant in different cases. Formats and examples for the most commonly cited source types are given below.

#### 2.8.4.1 Standard Format for Book

Format	x. Author(s). Title. Edition. Place of publication: Publisher; Year.
Example	1. Wilkinson IB, Raine T, Wiles K, Goodhart A, Hall C, O'Neill H. Oxford handbook of clinical medicine. 10th ed. Oxford: Oxford University Press; 2017.
Notes	Editions are given (in abbreviated form) only when referring to an edition other than the first.

#### 2.8.4.2 Standard Format for Book chapter

Format	x. Author(s). Title of chapter. In: Editor(s), editors. Title of book. Place of publication: Publisher; Year. Page range.
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Example	2. Darden L. Mechanisms and models. In: Hull DL, Ruse M, editors. The Cambridge companion to the philosophy of biology. Cambridge: Cambridge University Press; 2008. p. 139–159.
Notes	The first name given is that of the author, while the editor’s name appears later, followed by ‘editors’. The page range indicates the location of the chapter in the book, and is preceded by ‘p.’

#### 2.8.4.3 Standard Format for Journal articles

Format	x. Author(s). Article title. Journal Name (abbreviated). Year Month Day; Volume(Issue): page range. Available from: URL DOI
Example	3. Bute M. A backstage sociologist: Autoethnography and a populist vision. Am Soc. 2016 Mar 23; 47(4):499–515. Available from: <a href="https://link.springer.com/article/10.1007/s12108-016-9307-z">https://link.springer.com/article/10.1007/s12108-016-9307-z</a> doi:10.1007/s12108-016-9307-z
Notes	Use the abbreviated form of the journal’s name, which should be provided in the citation information for the article. Include a URL and DOI when citing an online journal. End with the page range if you cite a print journal. Note the lack of spacing between the volume, issue and page range. The names of months are abbreviated. Page numbers for journals are not preceded by ‘p.’

#### 2.8.4.4 Standard Format for Website

Format	x. Author(s). Title [Internet]. Year [cited Date]. Available from: URL
Example	4. Cancer Research UK. Current research into breast cancer [Internet]. 2020 [cited 2020 Feb 14]. Available from: <a href="https://www.cancerresearchuk.org/our-research/our-research-by-cancer-type/our-research-into-breast-cancer/current-breast-cancer-research">https://www.cancerresearchuk.org/our-research/our-research-by-cancer-type/our-research-into-breast-cancer/current-breast-cancer-research</a>
Notes	Web pages often won’t have a clearly identified author; in this case, you can usually name a corporate author. The date used is the year when the website was last updated. The date in square brackets is when you accessed the site.



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### 2.8.4.5 Standard Format for Print Conference Proceedings

Format	Editor(s), ed(s). Title of conference: subtitle of conference; Year Month Date of Conference; Location of Conference. Place of publication: Publisher; Year of Publication.
Example	Bruhat M, Silva Carvalho JL, Campo R, et al, eds. Proceedings of the 10th Congress of the European Society for Gynaecological Endoscopy; 2001 Nov 22-24; Lisbon, Portugal. Bologna (Italy): Monduzzi Editore, International Proceedings Division; 2001.

### 2.8.4.6 Standard format for a Paper from Print Conference Proceedings

Format	Author(s). Title of paper. In: Editor A, Editor B, Editors. Title of Published Proceedings: Proceedings of the Title of Conference: subtitle of Conference; Year Month Date of Conference; Location of Conference. Place of publication: Publisher; Year of Publication. p. inclusive page numbers.
Example	Luca J, Tarricone P. Does emotional intelligence affect successful teamwork? In: Kennedy G, Keppell M, McNaught C, et al, eds. Meeting at the Crossroads: Proceedings of the 18th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education, 2001 Dec 9-12; Melbourne: Biomedical Multimedia Unit, The University of Melbourne; 2001. p.367-76.

### 2.8.4.7 Standard Format for Publically Available Online Conference Proceedings

Format	Editor(s), ed(s). Title of conference: subtitle of conference [conference proceedings on the Internet]; Year Month Date of Conference; Location of Conference. Place of publication: Publisher; Year of Publication. [date cited]. Available from: URL
Example	Muller S, ed. Proceedings of the 10th International Conference on Head-Driven Phrase Structure Grammar; 2003 Jul 18-20; East Lansing (MI) [conference proceedings on the Internet]. Stanford (CA): CSLI Publications; 2003. [cited 2013 Jun 26]. Available from: URL: <a href="http://csli-publications.stanford.edu/HPSG/4">http://csli-publications.stanford.edu/HPSG/4</a>



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#### 2.8.4.8 Standard Format for a Paper from Publically Available Online Conference

##### Proceedings

Format	Author(s). Title of paper. In: Editors of proceedings. Title of Conference: subtitle of Conference [conference proceedings on the Internet]; Year Month Date of Conference; Location of Conference. Place of publication: Publisher; Year of Publication. [date cited]. Inclusive pagination. Available from: URL
Example	Paris L, Koenig SP. What does it mean to be a complement? In: Muller S, ed. Proceedings of the 10th International Conference on Head-Driven Phrase Structure Grammar; 2003 Jul 18-20; East Lansing (MI) [conference proceedings on the Internet]. Stanford (CA): CSLI Publications; 2003. [cited 2013 Jun 26]. p.298-313. Available from: URL: <a href="http://csli-publications.stanford.edu/HPSG/4/paris-koenig.pdf">http://csli-publications.stanford.edu/HPSG/4/paris-koenig.pdf</a>

#### 2.8.4.9 Standard Format for Paper from Online Conference Proceedings in an Electronic Collection

Format	Author(s). Title of paper. In: Proceedings of the Title of Conference: subtitle of Conference [conference proceedings on the Internet]; Year Month Date; Location. Place of publication: Publisher; Year. Available from: Database Name.
Example	Cloherly SL, Dokos S, Lovell NH. Qualitative support for the gradient model of cardiac pacemaker heterogeneity. In: Proceedings of the 2005 IEEE Engineering in Medicine and Biology 27 Annual Conference [conference proceedings on the Internet]; 2005 Sep 1-4; Shanghai, China. New York: IEEE; 2005 [cited 2013 Sep 2]. p. 133-6. Available from: IEEE Xplore <a href="http://ieeexplore.ieee.org/Xplor">http://ieeexplore.ieee.org/Xplor</a>

#### 2.8.4.10 Standard format for Drug Database Monographs

Although some of the following resources are not available through Wilkes, you may have your own subscriptions and need to reference them, so follow the guidelines below. Many of these are available via multiple formats such as from the Internet, a mobile device, or linked from an electronic health record. For simplicity, the following formats are for citing the Internet version.

Not all drug information databases may indicate the date they were last updated; if the update date is not available, omit this but still indicate the date cited (i.e. the day you looked at the article).



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The examples below show you how to cite specific databases and tell you the publisher and publication city for most of the databases you'll use.

### **Clinical Pharmacology**

Example:

Omeprazole. In: Clinical Pharmacology [database on the Internet]. Tampa (FL): Gold Standard. 2012 [updated 2009 Dec 12; cited 2013 Aug 15]. Available from: <http://www.clinicalpharmacology.com>

### **Facts and Comparisons 4.0 (available at Wilkes)**

Examples:

Minoxidil. Drug Facts and Comparisons. Facts & Comparisons [database on the Internet]. St. Louis, MO: Wolters Kluwer Health, Inc; March 2005 [cited 2012 May 9]. Available from: <http://online.factsandcomparisons.com>

Kava. Review of Natural Products. Facts & Comparisons [database on the Internet]. St. Louis, MO: Wolters Kluwer Health, Inc; June 2009 [cited 2012 May 9]. Available from: <http://online.factsandcomparisons.com>

### **Lexi-Comp (available at Wilkes)**

Lexi-Comp contains several different databases. A Lexi-Comp citation must indicate which of these databases the monograph you're citing came from.

Examples:

Omeprazole. In: Geriatric Lexi-Drugs [database on the Internet]. Hudson (OH): Lexi-Comp, Inc.; 2007 [cited 4 Sep 2012]. Available from: <http://online.lexi.com/lco/action/home/switch>



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Grapefruit. In: Natural Products Database [database on the Internet]. Hudson (OH): Lexi-Comp, Inc.; 2007 [cited 15 Aug 2013]. Available from: <http://online.lexi.com/lco/action/home/switch>

Diabetes insipidus. In: Patient Education – Disease and Procedure [database on the Internet]. Hudson (OH): Lexi-Comp, Inc., [updated 2013 Jan 9; cited 15 Aug 2013]. Available from: <http://online.lexi.com/lco/action/home/switch>

Natural Standard

Example:

St. John's wort. In: Natural Standard: the authority on integrative medicine [database on the Internet]. Cambridge (MA): Natural Standard; 2012 [cited 15 Aug 2013]. Available from: <http://www.naturalstandard.com/>

Micromedex (available at Wilkes)

Micromedex contains several different databases. A Micromedex citation must indicate which of these databases the monograph you're citing came from.

Examples:

Acupuncture. In: Alternative Medicine [database on the Internet]. Greenwood Village, CO: Thomson Micromedex; 1974-2012. [cited 2012 Aug 16] Available from: <http://www.micromedexsolutions.com/micromedex2/librarian>

Diltiazem In: DRUGDEX® System [database on the Internet]. Greenwood Village, CO: Thomson Micromedex. [cited 2012 Aug 16]. Available from: <http://www.micromedexsolutions.com/micromedex2/librarian>





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Cytarbine. In: POISINDEX Managements [database on the Internet]. Greenwood Village, CO: Thomson Micromedex. [cited 2006 Aug 16]. Available from: <http://www.micromedexsolutions.com/micromedex2/librarian>

### Missing information in Vancouver references

Some sources will be missing some of the information needed for a complete reference. See below for how to handle missing elements.

#### No author

As shown in the website example above, when no individual author is named, you can usually name the organization that produced the source as the author.

If there is no clear corporate author – for example, a wiki that is created and updated collaboratively by users – you can begin your reference with the title instead:

5. Breast cancer [Internet]. 2020 [cited 2020 Feb 14]. Available from: [https://en.wikipedia.org/wiki/Breast\\_cancer](https://en.wikipedia.org/wiki/Breast_cancer).

#### No date

Sources such as websites may lack a clear publication date. In these cases, you can omit the year in your reference and just include the date of your citation:

6. Scriber. How to structure a dissertation [Internet]. [cited 2020 Feb 14]. Available from: <https://www.scribbr.co.uk/category/thesis-dissertation/>

#### No page numbers

You may want to show the location of a direct quote from a source without page numbers, such as a website. When the source is short, you can often just omit this, but where you feel it's necessary you can use an alternate locator like a heading or paragraph number:

NASA calls the telescope 'the most significant advance in astronomy since Galileo's telescope' (5, para. 5).



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### Secondary Referencing in the Text and Reference List (or Citing Something that Someone Else Has Cited)

Sometimes when reading a book or journal article, you may come across a summary in which the author has made reference to or quoted from another work. Even though you have not read this “second” work, you may wish to refer to it. This is called secondary referencing.

It is always best to try to locate the original work and quote from it, but sometimes this is not possible. When this happens you must make clear in your text both the source you are quoting from and the original source, but it is the one you have actually looked at that appears in your reference list.

The Vancouver style does not give specific direction on secondary referencing; the following is adapted from practice in other referencing styles.

#### Format of in-text citation

Author of the quote (Year, "cited by" Author of resource you have seen, superscript of reference number from list)

#### Examples of in-text citation

Armstrong (2006, cited by Kanwal<sup>1</sup>) reports that 1.3% of the population is infected....  
Dalan & Leow (2007, cited in Propranolol [DrugDex]<sup>2</sup>) states that the incidence of cardiorespiratory arrest is rare....

**Reference List** [Only include a reference for the resource that you have actually seen.]

1. Kanwal F, Schnitzler MS, Bacon BR, Hoang T, Buchanan PM, Asch SM. Quality of care in patients with chronic hepatitis C virus infection: a cohort study. *Ann Intern Med.* 2010 Aug 17;153(4):231-9. [The Armstrong article appears in the references of this article]
2. Propranolol. In DrugDex [database on the Internet. Greenwood Village, CO: Thomson Micromedex. Updated



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periodically. [cited 2010 Aug 31]. Available from: <http://www.thomsonhc.com/home/dispatch>  
[The Dalan and Leow article appears in the References for this monograph.]

\*To gain more information please visit the following website:

- <https://wilkes.libguides.com/c.php?g=191948&p=1266458>
- [http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html)
- <https://www.scribbr.co.uk/referencing/vancouver-style/>

### 2.9 Appendixes

Information or data that is too detailed for the main body of the thesis may be included as appendixes. These are placed after the reference list. Appendixes include original data, summary, sideline or preliminary tests, tabulations, tables that contain data of lesser importance, very lengthy quotations, supporting decisions, forms and documents, computer printouts, detailed engineering drawings and other pertinent documents. Appendix materials should be grouped by type, e.g., Appendix A: Questionnaire, Appendix B: Original data, Appendix C: Tables of results.

Appendices must be paginated consecutively with the main text. If there are three or less appendixes, their details (such as number and titles) should be listed as items in the Table of Contents. If there are more than three appendixes, the Table of Contents should include a List of Appendixes with corresponding page numbers. The list itself should come immediately after the List of Figures.

### 2.10 List of publications

All publications (in journals and proceedings) that result from the study undertaken by the student while under supervision and during their candidature, and for which the student is the first or principal author, should be listed clearly and accurately.



### Thesis Preparation Guideline

### 3 Appendix A

#### Example of the Spine and Cover of a Thesis

<b>Spine</b>	<div data-bbox="597 575 1209 793" data-label="Diagram"> <p style="text-align: center;">3 Cm</p> <p style="text-align: center;">Ilam University of Medical Sciences</p> <p style="text-align: right;">3 Cm</p> </div> <div data-bbox="332 861 1421 1554" data-label="Text"> <p style="text-align: center;"><b>Ilam University of Medical Sciences</b>  (20point- bold times new roman- the top margin should be at least 4.5 cm)  <b>Department of ----(insert the name of your department)</b>  (18 point- bold times new roman- the top margin should be at least 6.5 cm)  <b>Thesis submitted to the Ilam University of Medical Sciences in fulfillment of the requirements for the degree of -----(insert the name of the degree)</b>  (16 point- bold times new roman- the top margin should be at least 8 cm)</p> <p style="text-align: center;"><i>Title of thesis</i>  (20 point- bold, italic times new roman- the top margin should be at least 11 cm)</p> <p style="text-align: center;"><b>Chairman Name</b>  (18 point- bold times new roman- the top margin should be at least 18 cm)</p> <p style="text-align: center;"><b>Supervisory committee names</b>  (18 point- bold, italic times new roman- the top margin should be at least 20 cm)</p> <p style="text-align: center;"><b>Name of student</b>  (18 point- bold, italic times new roman- the top margin should be at least 25 cm)</p> <p style="text-align: center;"><b>Year</b>  (18 point- bold, italic times new roman- the top margin should be at least 28 cm)</p> </div>
<b>Title of thesis</b>	
<b>Bold 11-point gold colored font</b>	
<b>Student Name</b>	
<b>Year of submission</b>	



Hnam University of Medical Sciences

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### 4 References

1. Bell E, Bryman A, Harley B. Business research methods: Oxford university press; 2018.
2. Saunders M, Lewis P, Thornhill A. Research methods for business students: Pearson education; 2009.