

Preparing Manuscript from Thesis Material and Selecting Journals for Submission

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You don't write something because you want to say something, you write because you have got something to say.—F. Scott Fitzgerald



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Key Points

- The best way of getting the thesis work and the research outcome known to the rest of the world is to get it published in a scientific journal.
- The skill of preparing an article out of a dissertation can be acquired and mastered by familiarizing oneself with original articles published in various journals.
- The International Committee of Medical Journal Editors (ICMJE) provides assistance in preparing the manuscript and the submission process.
- Indexing often serves as the officially recognized database where researchers and scholars can reliably find high quality scientific journals for publication.
- Predatory, scholarly open-access journals generally have weak peer-review system and often charge the authors a heavy processing fee. Submission to these *questionable* open-access standalone publishers to be avoided.
- Familiarizing oneself with manuscript submission and tracking system helps in publishing the thesis work in a shorter time frame.

Preparing Manuscript from Thesis

Why Publish the Thesis?

The fundamental aim of performing medical research is to improve existing knowledge on disease or treatment options for improvement of outcomes. This is best achieved when the research work reaches out to the wider healthcare provider network who will benefit from the research findings [1]. The best way of getting the research outcome known to the rest of the world is to get it published in a scientific journal. [2] “If it wasn’t published, it wasn’t done” is the famous quote by E.H. Miller 1993 which underpins the importance of publishing research work.

Specific advantages in publishing research work are:

1. The research work per se gets prime recognition only when it is published in an appropriate scientific journal.
2. Publishing the findings of the research work will ensure that the outcome of the research reaches out to the target population to confer maximum benefit.
3. Facilitates career progression of the researcher in the specific research field.
4. Lucrative to funding agencies who might be interested in the particular area of research.
5. Influences the professional recruitment of the researcher in teaching medical institutions and also aids promotional avenues [3].
6. Enhances reputation amongst peers in addition to a sense of personal academic achievement.
7. Last but not the least, it is the moral responsibility of the researcher to disclose the findings of the research as it might benefit the medical fraternity and society as a whole, by positively or negatively influencing current knowledge of the disease or treatment strategies. The most effective means of achieving this would be via publication in a reputed scientific journal.

Manuscript Preparation from Thesis

The thesis is an outcome of carefully planned and executed research work, which details all the aspects of the project ranging from the protocol to the conclusion. The detailed thesis project is often voluminous and can range from a hundred pages to a thousand pages depending on the ‘base’ project i.e. a master’s degree thesis or a PhD thesis. It is not practical to publish the thesis work in its entirety in any scientific journal, as an individual issue of a journal generally publishes around 15–20 manuscripts. Hence to publish the thesis in a specific journal, the content needs to be edited as per the journal’s requirements. Every journal has different requirements in terms of manuscript style, type of font, size of the font, spacing and word/character count [4]. These details can be found in the section on “Instructions to authors” in the journal’s web page. Most journals limit the word count to 2500–3500 for original research work, which generally extends over four to five pages. It is no less than a herculean task to edit the contents of the thesis, which often runs into hundreds of pages, to a manuscript of 4000 words, whilst preserving the core essence. However, the skill of preparing an article out of a dissertation can be acquired and mastered by familiarizing oneself with original articles published in various journals, which will make the student familiar with the manuscript style and the expectations of the reader, the reviewer and the editor [5, 6].

The typical article in medical journals is said to follow the IMRAD pattern, which stands for Introduction, Methods, Results and Discussion. However, most current scientific journals have adapted the guidelines laid out by the International Committee of Medical Journal Editors (ICMJE). The first recommendation of the ICMJE on Uniform requirements for manuscripts submitted to biomedical journals was framed in 1997 and the guidelines are updated at regular intervals [7]. The latest version of “Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals” guideline was updated in December 2016 and the Portable Document File (PDF) is available free to access for the researcher [8]. The document sets out clear guidelines to be followed when reporting the research and the specific statements to be made during the manuscript submission to ensure proper conduct of the research and adherence with ethical standards. The ICMJE also provides assistance in preparing the manuscript and the submission process, which can be accessed free-of-charge via the home page link of ICMJE [9]. It is prudent to read and understand the guidelines before preparing the manuscript to avoid multiple revisions or rejection of the article.

As part of standard reporting of research, a specific format is recommended to be followed depending on the study design. The mandatory reporting and checklist includes Strengthening the Reporting of Observational studies in Epidemiology for observational studies (STROBE), Standards for Reporting of Diagnostic Accuracy (STARD) and Consolidated Standards of Reporting Trials (CONSORT) for clinical trials [10–13]. Table 1 describes the mandates for the manuscript and compares the style of thesis and the typical manuscript submitted and published in the journal.

Table 1 Mandates for the manuscript and compares the style of thesis and the typical manuscript submitted and published in the journal

	Thesis	Manuscript
Contents	In the front page	Not required
Certificate of thesis completion	Usually in second to fourth page	At the end of the manuscript, in two to five lines
Acknowledgement	Not mandatory	Mandatory, 150–250 words in most journals
Abstract	500–1500 words	150–200 words
Introduction	Ranges from 100 to 150 pages	Not required
Review of literature	Should be spelt out separately i.e. Aim, primary and secondary objective(s)	Objectives are usually incorporated at the end of the introduction or in the beginning of methodology
Aim and objective	Detailed methodology including the year and duration of the study, department and institution where it was carried out, patient details, procedure/ intervention details, primary/ secondary outcomes and the scale used to measure the outcomes, ethical/ legal aspect etc., ranges between five to ten pages	Brief methodology focusing on <ol style="list-style-type: none"> 1. Study design 2. Inclusion/ exclusion criteria 3. Randomization, blinding, allocation concealment etc. depending on the study design 4. Brief description of intervention, duration of follow up/ data collection 5. Outcome variables and methods/scale for the assessment of outcomes 6. Declaration of Helsinki for human studies and clinical trial registration if applicable 7. Brief mention about ethics committee approval and informed patient consent
Methodology	Detailed statistical aspect of the thesis including details of sample size calculation and rationale for selection, all the variables, statistical tests used for outcome variables etc., ranges from four to five pages	The methods section is usually written in 500 to 750 words <ol style="list-style-type: none"> 1. Sample size calculation 2. Primary and important secondary outcome variables and the statistical tests used for the same 3. Defining cut off for statistical significance
Statistical analysis		

Table 1 (continued)

Observations and Results	Details of all possible analysis of the research variables and write up for all the tables and figures. Usually written between ten to twenty pages	Results written as paragraphs between 150 to 200 words, citing the table number where necessary. There should not be an overlap of contents between the text and illustrations. The brief results need to focus on 1. Number of patients included and eventually analyzed 2. Tables which need to be explicit and self-explanatory 3. Brief write up of results which have not been included in the tables or figures
Discussion	Detailed discussion which compares methods, all the parameters/variables studied and the outcomes. Written between 10 and 20 pages	Focused discussion on the important outcomes, written in 750–1500 words
Summary	Briefing the thesis including the objective(s) of the study, methods, results and discussion	Not required
Conclusion	Written in detail stating the rationale and justification of arriving at the conclusion	Written in 50–100 words stating the final outcome of the study. May include recommendations based on the outcome
Limitations	Detailing the hardship faced and the weakness of the conducted research, with possible suggestions to overcome such issues in future studies	Included at the end of the discussion, stating the important limitation(s) which could possibly affect the study outcome
Tables and figures	Between 20 and 40 tables and figures	Restricted to 4–6 tables/figures in most journals. Few journals allow extra content (tables, figures etc.) to be published as “supplementary material” available online along with the article
References	Ranges from 50 for a master’s degree thesis to 250 references for a PhD project. Vancouver style is commonly followed	Restricted to 30–50 references depending on the individual journal requirements. Referencing style may vary among the journals, however, most journals follow the Vancouver style of referencing

(continued)

Table 1 (continued)

Contents	Thesis	Manuscript
Annexure	Includes the following 1. Protocol submitted 2. Institutional review board/ ethics committee certificates 3. Patient information sheet and consent form 4. Description of scale, classification/ definitions of items used in the thesis detailing the source 5. Data collection Proforma 6. Master data chart	None of the mentioned items required. A small number of journals request a statement from the corresponding author stating that the original data collected can be produced when solicited
Details of contribution of authors/ investigators	Not required	Generally required in brief stating the contribution toward, conceptualization, literature search, designing the study, data collection, analysis, write up of the manuscript and agreement among the included authors
Statement of conflict of interest, copyright- transfer agreement, financial disclosure	Not mandatory	Required as a mandatory part of submission. Some journals also require confirmation from the corresponding author that the article is not already published or under review in any other journal at the time of submission and that all the authors have viewed and approved the manuscript before submission. Most journals require declaration of the conflict of interest and disclosures from all the authors individually
Various statements on adherence to standard research reporting	Various statements on adherence to standard research reporting like Helsinki Statement for human studies, Data sharing statement for clinical trials, STROBE reporting and checklist, CONSORT reporting and checklist are desirable but not mandatory	Required as a part of Uniform requirements for manuscripts submitted to biomedical journals

Selecting the Journal for Submission

Searching for the Journal to Publish the Thesis Work-Where to Begin?

The selection of the journal for publication of the thesis work is a crucial step in eventual successful publication. It begins with searching for similar or related published research work [14–17]. Medical research search engines like PubMed are freely available and serve to find journals which have published related research work [17, 18]. PubMed searches the database from PubMed Central and Medline, where a majority of the published medical researches are indexed. Similarly, Google Scholar and Elsevier supported tools such as Mendeley also provide a good number of accessible publications from many journals. The journals that have published similar allied research work are more likely to consider the work for potential publication. Identifying journals in this manner is most likely to be beneficial for young research scholars with limited experience in publication.

Scope of the Journal and the Thesis Content

After shortlisting potential journals, it is important to visit the home page of each of the selected journals to check out the aim and scope of the journal. It is important to be aware that some journals such as the *Journal of Gene Medicine*, *Molecular Oncology* etc. publish only basic research, whereas other journals like the *International Journal of Surgery*, *World Journal of Gastroenterology*, *New England Journal of Medicine* etc. publish both basic and clinical research work. If the submitted manuscript does not fall within the scope of the journal, it will be rejected at the editorial screening itself, prior to being sent for peer review [16–18]. Hence, selecting the most suitable journal will avoid multiple rejections and thereby the unnecessary time delay [19].

Another easy method to search for journals with a similar scope of publication is to simply check the journals, which were quoted in the literature review of the thesis. If a journal is cited multiple times in the review text of the thesis, it is likely to have a similar aim and scope as the research work in question.

Multidisciplinary or Speciality Journal

Multidisciplinary journals like the *New England Journal of Medicine*, *International Journal of Advanced Medical and Health Research* etc. tend to publish research work from all fields of medicine. Specialty journals like the *International Journal of Surgery*, *Annals of Surgery*, *JAMA Surgery* etc. predominantly publish surgical research work. Journals such as the *Journal of Gastroenterology and Hepatology*; *Canadian Journal of Kidney Diseases* etc. publish mainly organ-oriented research.

Multidisciplinary journals have the advantage of wider readership and a high impact factor, however, publications in these journals are often multicentric research studies of high academic calibre [14–18]. The speciality and organ oriented journals often have a select target audience who will derive maximum benefit from the published research. Selection of the journal should be done after considering the above criteria and the field in which the thesis work was done. Search engines such as <https://www.biomedcentral.com/journals> may also be used to fetch the existing journals in a particular speciality [20].

Indexed Journals and Indexing Agencies

Much is spoken and discussed regarding indexed journals amongst the academic fraternity. Young researchers often have no clue as to what is considered an indexed publication. A majority might be under the impression that journals available on PubMed are indexed and the rest are not. The indexing process will help the author in avoiding the predatory journals. In these journals, there is generally a weak peer-review system and often the quality of accepted articles may not be up to the standards. These journals often charge the authors a heavy processing fee as well. The list of predatory journals can be found at <https://web.archive.org/web/20170112125427/https://scholarlyoa.com/publishers/> [21]. Since the originality and legitimacy of the published research work in any journal entirely depends on the stringent peer review system, indexing agencies follow strict guidelines for the peer review system and conduct regular checks to ensure adherence.

Indexing often serves as the officially recognized database where researchers and scholars can reliably find high-quality scientific articles. Indexed journals adhere to the austere manuscript publication criteria which includes a transparent blinded peer review system which prevents research work of lesser standard from being published [21, 22].

Recognized indexing databases include the following

1. Embase/ExcerptaMedica
2. IndMed
3. Medline (Index Medicus)
4. PubMed Central
5. Scopus
6. Science Citation Index

The recognized indexing agencies make the article easily and widely available to researchers and provide a surrogate guarantee of the quality and reliability. This will also help in improving the citations of the article. Hence while choosing the journal for manuscript submission it is vital to check the home page of the journal with regards to the status of indexing and the agency with which it is indexed.

Open Access Publication

Open access gives researchers the opportunity to make their research work universally available by paying an open access fee. This usually ranges from 200 USD to 2500 USD in line with the reputation of the journal. The readers, however, will have access to the article without paying a subscription fee to the journal. If the publication is freely accessible online, it will have a wide readership and the researcher thereby gets the highest recognition for the work done as it reaches out to the maximum possible audience [23–25]. Many journals do not charge for manuscript processing and publication, for authors not opting for open access. A few journals charge for colour illustrations. It is to be noted that the open access fee is charged over and above the publication charges and the charges for publishing colour images if any. Some funding agencies make it mandatory for the researcher to opt for open access publication and include these charges as part of the funding. In non-funded thesis work, the author has the option to opt or decline the open access publication depending on the charges and/or the agreement amongst the other investigators.

International/Regional Journals and Language of Publication

Publishing the thesis work in an international journal like the New England journal of medicine, Nature medicine etc. gets wider recognition for the researcher as it reaches out to all parts of the world [23, 24]. Publication in English assures a higher readership as it serves as the common language for exchanging modern scientific knowledge. However, the work, which is concerned with or benefits a highly specific finite geographical area is less likely to get accepted in an international journal. Non-native English speaking authors might need to make use of language editing services provided by recognized agencies for preparing the manuscript, which increases the chance of acceptance [26].

Behavior of a disease/drug or distribution/pattern of health issues related to a particular race or geographical population can better serve its purpose if it gets published in regional/national journals (e.g. *European journal of medicine*, *Tropical Gastroenterology* and *Indian Journal of Surgery*). The researcher needs to assess the crux and the core message of the thesis to decide in appropriately selecting a regional, national or an international journal.

Journal Impact Factor

Journal Impact Factor (JIF) serves as a comprehensive tool to assess the quality, reliability and reputation of the journal [27, 28]. It is calculated from the average number of citations per paper published in the particular journal in the

preceding two years. A higher impact factor indicates that the articles published in the journal are of adequate quality to be read and cited by many researchers [29, 30]. Publishing in a high impact journal increases the chances of getting more citations for the article and wider recognition for the research work [31, 32]. However, the rejection rate in most high impact factor journals is significantly high, to the extent of 70–80% of submissions being rejected, as these journals strive to publish the highest quality research work. Most journals provide information on the current impact factor in the home page. This can be confirmed by the journal citation report (JCR) before submitting the manuscript, as falsified impact factors have been found to be reported by a few fraudulent journals.

Author Guidelines and Checklist

Before submitting the manuscript, it is mandatory to read and understand the author guidelines of a particular journal as every journal has different submission requirements with respect to word count, manuscript style and content, structure of the abstract, number of tables and figures, authorship criteria, copyright and legal processing etc. Reading and preparing the manuscript as per the journal guidelines reduces the duration of submission to eventual publication by avoiding multiple revisions at editorial screening [33]. Most journals provide a check list to be verified before final submission which includes number of files such as the title file, blinded manuscript file, tables and figures file, conflict of interests statement, authorship statement, statement on originality and non-submission to other journals and other supportive/specific documents. Preparing and arranging all the required files before submission will reduce the time spent in uploading the manuscript. Figure 1 illustrates the preparation of manuscript and submission process for a journal.

Manuscript Submission Process and Tracking System

Most journals follow an online manuscript submission system, which is an easier and faster method of publishing research work. The submission is then diverted to a common manuscript processing system such as Manuscript Central (Scholar One) and Editorial Manager in which the manuscript can be submitted and tracked using the assigned manuscript number during further course [34].

In summary, publishing one's thesis work is a task made easier by being systematic and organised. Also, 'being fore-warned is being fore-armed'. Familiarising oneself with the process and being aware of potential problems will save precious time and effort and go a long way towards ensuring successful publication of the thesis work.

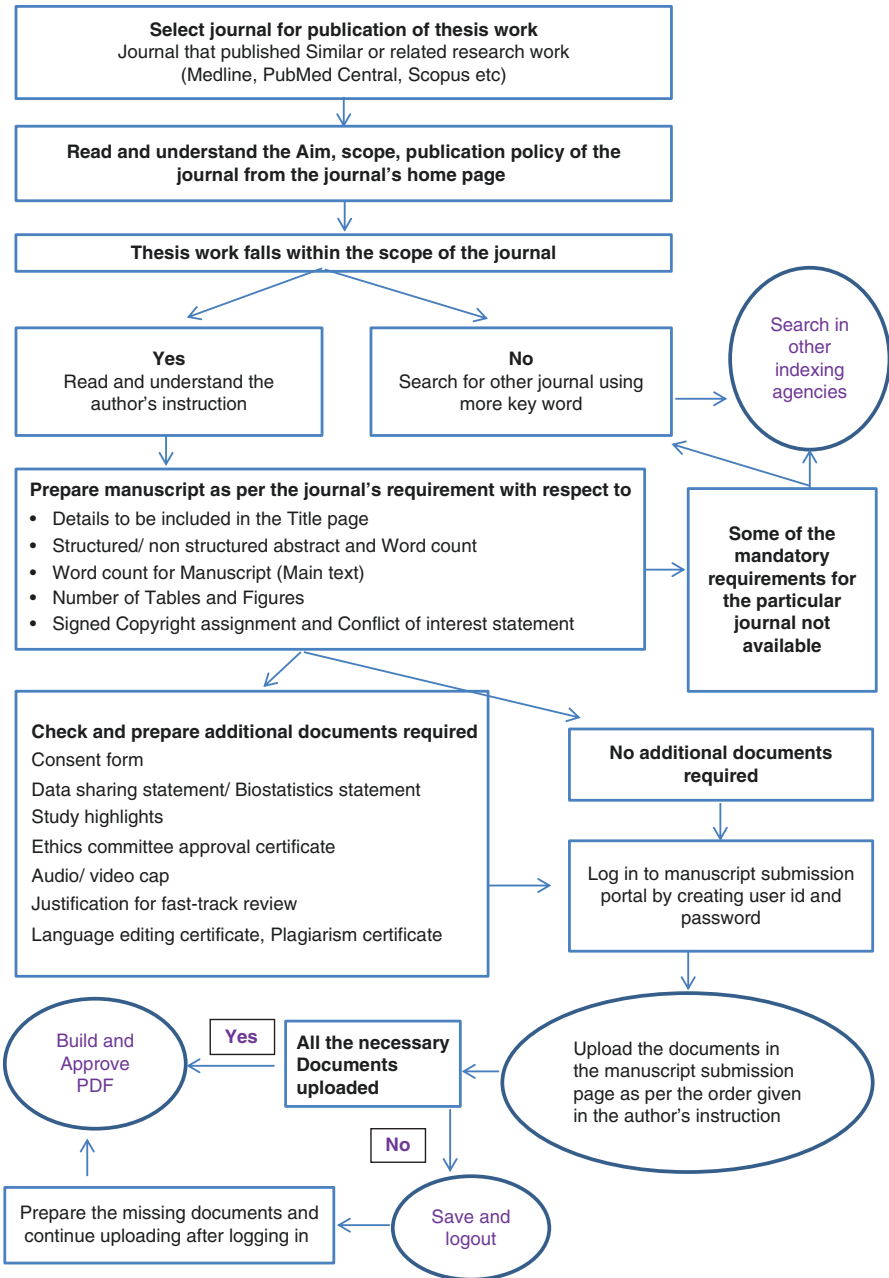


Fig. 1 Preparation of manuscript form thesis and submission process for a journal

Case Scenarios

1. After submission of manuscript to an indexed journal, the editor returns back the manuscript stating that it is not as per the journals requirements. Which of the following is the appropriate step?
 - (a) Consider a different journal for publication.
 - (b) Check the instruction to author of that journal and prepare the manuscript accordingly.
 - (c) Attach study highlights and data sharing statement.
 - (d) Reduce the word count and number of figures and tables.
2. You receive a mail from editor of a journal stating that they are interested in publishing your original article, and will provide concessional publication fee if you submit the manuscript in next one week. What would you do?
 - (a) Immediately accept the invitation and submit the manuscript.
 - (b) Check the article processing fee/publication fee and submit the manuscript if affordable.
 - (c) Check the indexing status of the said journal by visiting the home page and read the details of editorial board, instruction etc.
 - (d) Check the possibility of potential/probable Predatory, scholarly open-access journal before considering it for submission.

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