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PRESENTATION GROUP WORK –

SEARCH STRATEGY, SELECTION OF LITERATURE (FLOWCHART SEARCH)

Chairpersons: Assistant professor: Eirik Reiert – UIT

Crina Staicu/Gabriela Candea – University Lucian Blaga of Sibiu

Many students are required to write a critical review of current academic literature in their area of interest - researchers, postgraduates and undergraduates. Developing a great critical review is very important, but not always taught.

In this presentation, you will be guided through this complex process step-by-step, seeing examples, finding information and developing useful questions that will help you plan, draft and refine a critical discussion of what is and is not yet known about your topic.



Step 1: Identify key concepts and terms

Before you begin searching for literature, you need to:

- Define what you are searching for (dissertation or research paper, or a stand-alone assignment - a review of existing publications)
- Decide where to search (PubMed, Medline, OVID etc)
- Develop a search strategy using keywords and citations
- Review your research strategy
- Save your search for future use

Step 2: Select relevant databases and resources

It is **easier to search when your research topic is clearly defined**. Even if you haven't determined the exact focus of your research yet, spend some time becoming familiar with the research area.

Do background research to extend your understanding of the research area and the terminology used in its discussion. **Review articles** can be useful for gaining an overview of a topic.

Doing some **broad preliminary searching** may help you understand the quantity of existing literature in your area of interest, and establish a basis for your later more complex searching when you have developed your search strategy.

Search on your topic, journals and articles using some useful databases as:

- Your university's library catalogue
- Google Scholar
- Project Muse (humanities and social sciences)
- Medline (life sciences and biomedicine)
- PubMed (life sciences and biomedicine)

Step 3: Combine search terms with Boolean operators

On PubMed:

- The visualisation is based on the 100 [most relevant](#) documents for your search terms
- The size of the circles is proportionate to the number of papers in the top 100
- The knowledge map will highlight some papers in each area
- Many will be open access papers with the full text available from the interface, others may need to be accessed via Library for the full text.

How do I search PubMed?

Enter the terms (or key concepts) in the search box.
Suggestions will display as you type your search terms.

How do I search by author?

Enter the author's last name plus initials without punctuation in the search box, and then click Search. Names entered using either the last name + initials format (e.g.,

smith ja) or the full name format (john a smith) and no search tag are searched as authors as well as collaborators if they exist in PubMed.

[How do I search by journal name?](#)

Enter the journal name or abbreviation in the search box.

PubMed search results are displayed in a summary format, see the anatomy of search results page below.

Citations are initially displayed 20 items per page with the most recently entered citations displayed first.

You can mouseover a journal's title abbreviation to display the full journal name.



[How do I display an abstract?](#)

Click the title of the article to see the abstract. "No abstract available" is indicated on citations without an abstract.

[I retrieved too many citations. How can I focus my search?](#)

To limit the number of search results:

Replace general search terms with more specific ones (e.g., search for low back pain instead of back pain).

Add additional terms to your search.

Use the sidebar filters to restrict your results by publication dates, species, article types, etc.

Click manage filters in the Filter your results portlet to change your My NCBI filter selections.

<http://youtu.be/696R9GbOyvA>

I retrieved too few citations. How can I expand my search?

- Click the **Similar Articles See all** link for a relevant citation to display a [pre-calculated set](#) of PubMed citations closely related to the article.
- Remove extraneous or specific terms from the search box.
- Try using alternative terms to describe the concepts you are searching.

Example

If your search, [facial pain sleep disorders](#), retrieves too few citations consider removing search terms to broaden the search and retrieve more citations such as, [pain sleep disorders](#).

Database Search Tips

This is a quick reference to assist when searching multiple databases. For more information see the individual database help sections.

Database	Boolean/Proximity Operators	Phrase	Truncation/Wildcards	Subject Headings	Other Tips
PubMed	<ul style="list-style-type: none">• OR, AND, NOT Note: Use uppercase characters• Adjacency/proximity searching is not available in PubMed. However, many phrases are recognised by the MeSH Translation Table (automatic term mapping):<ul style="list-style-type: none">○ If your term is found it will be searched as MeSH (including narrower terms) and in all fields as a free text search.○ If there is no match the terms are combined with AND, then searched in all fields.	<p>Use double quotes to force a phrase search.</p> <p>A hyphenated word is also searched as a phrase</p> <p>N.B. Phrase searching will turn off the automatic term mapping.</p>	<p>* at end of word or rootword retrieves all suffix variations</p> <p>This turns off the automatic term mapping.</p> <p>If you truncate in a multi-word search (e.g. fetus infection* maternal – fetus infection* is treated as a phrase)</p>	<p>MeSH Headings:</p> <ul style="list-style-type: none">➤ browse thesaurus for subject headings➤ search by subject headings	<p>Always check the search details box to see how your search has been processed.</p>

Different journals may differ in the way they customarily display author names. This means you may need to try several ways of entering an author's name to uncover all of their published work. For example:

Smith, J

Smith, J A

Smith, John A

Smith, John Anthony and so on.

Further to this, **databases may vary in the way they read punctuation in searches.** If conducting a keyword search for an author name, some databases may need you to enter surname comma first name, while others might need first name surname.

For a complete literature searching it is important to be systematic in your approach. This includes developing a plan for your search (including the search terms you will use and the resources you will search), and keeping records of the searches you carry out.

Alternatively, some databases may allow you to do a topic search and refine your results to **document type** Literature Review or Review.

The screenshot shows the PubMed website interface. The search bar contains the text "literature review on aortic dissection". The results are displayed in a list format. The top result is "Best matches for literature review on aortic dissection:" followed by a list of articles. The first article is "Acute aortic dissection: pathogenesis, risk factors and diagnosis" by Gawinecka J et al. (2017). The second article is "Acute Type A Aortic Dissection" by Elsayed RS et al. (2017). The third article is "Pregnancy-related acute aortic dissection in Marfan syndrome: A review of the literature" by Smith K et al. (2017). The search results are sorted by "Most recent" and there are 3193 items found. The interface includes filters for article types, text availability, publication dates, and species. There is also a "Results by year" bar chart and a "Titles with your search terms" section.

When you find a useful article, check the reference list to identify any important publications that didn't show up in your keyword search, and take note of recurring citations.

The screenshot shows the full-text article page for "Optimal Treatment of Uncomplicated Type B Aortic Dissection: JACC Review Topic of the Week" by Tadros RO¹, Tang GH², Barnes HJ³, Mousavi J³, Kovacic JC⁴, Faries P³, Olin JW⁴, Marin ML³, Adams DH². The article is published in J Am Coll Cardiol. 2019 Sep 17;74(11):1494-1504. doi: 10.1016/j.jacc.2019.07.063. The abstract states: "Historically, the gold standard for treating acute uncomplicated type B aortic dissection (TBAD) has been aggressive medical therapy to achieve optimal heart rate and blood pressure control. However, recent data have demonstrated that a significant proportion of patients with medically managed acute uncomplicated TBAD have late aorta-related complications, such as aneurysmal degeneration, that increase mortality and often necessitate surgical intervention. In this review, the authors review existing literature on uncomplicated TBAD and highlight contemporary surgical and medical strategies to manage this condition. Looking ahead, efforts are underway to identify and characterize a high-risk subgroup of acute uncomplicated TBAD patients who may benefit from early intervention." The article is published by Elsevier Inc. All rights reserved. The keywords are: TEVAR; aortic; dissection; endovascular; surgery; vascular. The PMID is 31514953 and the DOI is 10.1016/j.jacc.2019.07.063. The interface includes filters for article types, text availability, publication dates, and species. There is also a "Titles with your search terms" section.

If the same authors, books or articles keep appearing in your reading, make sure to seek them out. You can find out how many times an article has been cited on Google Scholar—high citation counts mean the article has been powerful in the field.

Figura 2


Google Scholar

Track citations to your articles. Appear in Scholar.
popescu.geo2017@gmail.com Switch account

Name
Popescu George
Full name as it appears on your articles

Affiliation
Professor, University of Bucharest
E.g., Professor of Physics, Princeton University

Email for verification
Adresa institutionala de email. Ex. popescu.george@unibuc.ro
E.g., email@princeton.edu

	Victor Costache Unknown affiliation	All	Since 2011
		Citations	307
		h-index	11
		i10-index	12
TITLE		CITED BY	YEAR
Kinetic Elephant Trunk Technique: Early Results in Chronic Symptomatic Aortic Dissection Management			
S Sultan, EP Kavanagh, D Veerasingam, V Costache, A Elhelali, ...			
Annals of vascular surgery 57, 244-252, 2019			
Infective Endocarditis in Intravenous Drug Users: Surgical Treatment			
M Horatiu, A Molnar, V Costache, E Bontas			
Infective Endocarditis, 2019			
Moderated Posters-Clinical cases moderated-Multimodality imaging for aneurysms and dissection			
ML De Alcantara, AS Felix, A Siciliano, JS Matos, CEV Francisco, ...			
European Heart Journal-Cardiovascular Imaging 20 (Supplement_1), i744-i751, 2019			
Clinical case poster session 2			
W Camilleri, MR Burg, A Borg, D Rodrigo Carbonero, A Crespo, T Munoz, ...			
European Heart Journal-Cardiovascular Imaging 20 (Supplement_1), i382-i420, 2019			
HIT Clinical Case Poster session 1			
D Zugwitz, M Jelenc, T Klokocovnik, K Azman Juvan, S Klassen, J Lisac, ...			
European Heart Journal-Cardiovascular Imaging 20 (Supplement_1), i46-i83, 2019			
Aortic Remodeling After Total Endovascular Aortic Repair With Multilayer Stents: Computational Fluid Dynamics Analysis of Aortic Remodeling Over 3 Years of Follow-up			

Step 4: Evaluate and select sources

You probably won't be able to read absolutely everything on the topic—start by reading the abstract to determine whether the article is useful. You will have to evaluate which sources are most valuable and relevant to your questions.

For each publication, ask yourself:

- What question or problem is the author addressing?
- What are the key concepts and how are they defined?
- What are the key theories, models and methods? Does the research use established frameworks or take an innovative approach?
- What are the results and conclusions of the study?
- How does the publication relate to other literature in the field? Does it confirm, add to, or challenge established knowledge?
- How does the publication contribute to your understanding of the topic? What are its key insights and arguments?
- What are the strengths and weaknesses of the research?

The choice of your review will depend on your topic and discipline: in the sciences you usually only review recent literature, but in the humanities you might take a long historical perspective (for example, to trace how a concept has changed in meaning over time).

Take notes and cite your sources

As you read, you should also begin the writing process—take notes that you can later incorporate into the text of your literature review. It is important to keep track of your sources with citations to avoid plagiarism.

It can be helpful to make an annotated bibliography, where you compile full citation information and write a paragraph of summary and analysis for each source. This helps you remember what you read and saves time later in the process.

According to the APA (American Psychological Association) citation guidelines, you should write down the last name of the author(s) and the year of publication. When quoting a source it is also required to include the page number(s). This can be done in multiple ways:

- An earlier study in which X and Y were compared revealed that ... (Smith, 2017).
- Smith (2017) shows how, in the past, research into X was mainly concerned with ...
- In 2017, research was carried out by Smith that indicated that ...

As you can imagine, citing a source with 3–5 authors takes up a lot of space in the text.

That is why you shorten the citation when you use the source a second, third or fourth time.

How? Instead of writing down all authors' last names, write only the last name of the first author, followed by "et al.," which means "and others."

- In this research, many participants made use of ... (McGuire et al., 2014).

- McGuire et al. (2014) noticed that ...

When the source is published by an organization instead of a person, cite the organization's name as the author.

- According to new research ... (Microsoft, 2014).

When you copy an quote of a text from another source and place it between quotation marks, you are required to add the page number to the in-text citation.

- This is also true from the business plan: "making an APA Citation Generator is a lot of work, but many students benefit from it" (Swan, 2014, p. 5).

Literature review vs systematic review

You might have heard the term 'Systematic Review'. A systematic review goes further than a literature review in that it aims to locate and evaluate all studies, published and unpublished, relevant to a specific research question.

Systematic reviews use explicit, systematic methods to minimise bias and enable verification and replication.

A typology of reviews			
Review Type	Literature review	Systematic review	Meta analysis
Description	Generic term: published materials that provide examination of recent or current literature. Can cover wide range of subjects at various levels of completeness and comprehensiveness. May include research findings	Seeks to systematically search for, appraise and synthesise research evidence, often adhering to guidelines on the conduct of a review	Technique that statistically combines the results of quantitative studies to provide a more precise effect of the results
Search methods used	May or may not include comprehensive searching	Aims for exhaustive, comprehensive searching	Aims for exhaustive, comprehensive searching. May use funnel plot to assess completeness
Review Type	Rapid review	Scoping review	Mixed methods
Description	Assessment of what is already known about a policy or practice issue, by using systematic review methods to search and critically appraise existing research	Preliminary assessment of potential size and scope of available research literature. Aims to identify nature and extent of research evidence (usually including ongoing research)	Refers to any combination of methods where one significant component is a literature review (usually systematic). Within a review context it refers to a combination of review approaches for example combining quantitative with qualitative research or outcome with process studies
Search methods used	Completeness of searching determined by time constraints	Completeness of searching determined by time/scope constraints. May include research in progress	Requires either very sensitive search to retrieve all studies or separately conceived quantitative and qualitative strategies

Adapted from: Grant, MJ & Booth, A (2009) A typology of reviews: an analysis of 14 review types and associated methodologies. Health Information & Libraries Journal, 26(2), 91-108.

Step 5: Review and refine search results

As you write, you can follow these tips:

- Summarize and synthesize: give an overview of the main points of each source and combine them into a coherent whole
- Analyze and interpret: don't just paraphrase other researchers—add your own interpretations where possible, discussing the significance of findings in relation to the literature as a whole
- Critically evaluate: mention the strengths and weaknesses of your sources
- Write in well-structured paragraphs: use transitions and topic sentences to draw connections, comparisons and contrasts

Dissertation literature review

If the literature review is part of your thesis or dissertation, show how your research addresses gaps and contributes new knowledge, or discuss how you have drawn on existing theories and methods to build a framework for your research.

Stand-alone literature review

If you are writing a stand-alone paper, you can discuss the overall implications of the literature or make suggestions for future research based on the gaps you have identified.

When done writing your literature review, don't forget to proofread thoroughly before sharing it with others.

Use references

Justify and support discussion/arguments/points of view

Make comparisons with other research

Demonstrate familiarity with field of research

Consider: What is relevant from the literature review and why is it relevant to your work?

Where is the evidence in the literature review?

Support throughout with references

Refer these ideas/concepts to your study