Finding and Reviewing Research Evidence in the Literature

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Purposes of a Literature Review

- Purposes for researchers (examples):
 - ✓ Integrate research evidence to sum up what is known and not known (gaps)
 - ✓ Shape research questions
 - √ Suggest methods
 - ✓ Point to conceptual framework
 - ✓ Assistance with interpretation of findings
 - ✓ Inspires your ideas

Types of Information for a Research Review

- Principal reliance on <u>primary sources</u> (the actual research reports written by researchers who conducted the study)
- Less reliance on <u>secondary sources</u> (summaries of studies by others)
- Peripheral use of clinical anecdotes, opinion articles, case reports

Formulating a Search Strategy

- Search in bibliographic databases
- Search citations from relevant studies to track down earlier research on which the studies are based
- Use the ancestry approach ("footnote chasing"): use the bibliography of a recent relevant reference to find earlier related studies (ancestors)
- Use a descendancy approach: is to find a pivotal early study & to search forward in citation indexes to find more recent studies ("descendants") that cited this pivotal study
- **Grey literature**: studies with more limited distribution, such as conference papers or unpublished reports
- You may also want to limit your search to studies conducted within a certain time frame (e.g., within the past 15 years) or to certain operational definitions of key variables

Starting an Electronic Search

- Most electronic searches start with a search for substantive topics, initiated by entering <u>keywords</u>
- Keywords do not have to be the same as the <u>subject headings</u> in the database, because most search programs have <u>mapping</u> capabilities
- A "keyword": Concepts relevant to your question/topic, patient population, interventions, measures, outcomes, variations on the same topic/spelling, etc...
- For quantitative studies, the keywords are typically the independent and dependent variables and, often, the population
- For qualitative studies, the keywords are the central phenomenon of interest and the population.

Types of Search in Electronic Databases

- Subject search—search for topics or keywords in the database
- Textword search—search for specific words (which can be keywords) in text fields of the database record (e.g., in the abstract or title)
- Author search—search for a specific researcher

Tools for Searching

Wildcard characters

- ✓ Can extend a search to multiple words with the same root, by adding the database's wildcard character to a truncated word
- ✓ Different databases or software packages use different wildcards, such as * or \$
- ✓ Example: nurs* would search for nurse, nurses, nursing

Tools for Searching (cont.)

Boolean operators: can be used to combine, restrict, or broaden searches

- ✓ AND: This Boolean operator instructs computer to retrieve references in which two or more terms are present (e.g., obesity AND diabetes).
- ✓ OR: This Boolean operator instructs computer to retrieve references containing any of 2+ terms separated by "OR" (e.g., obesity OR diabetes).

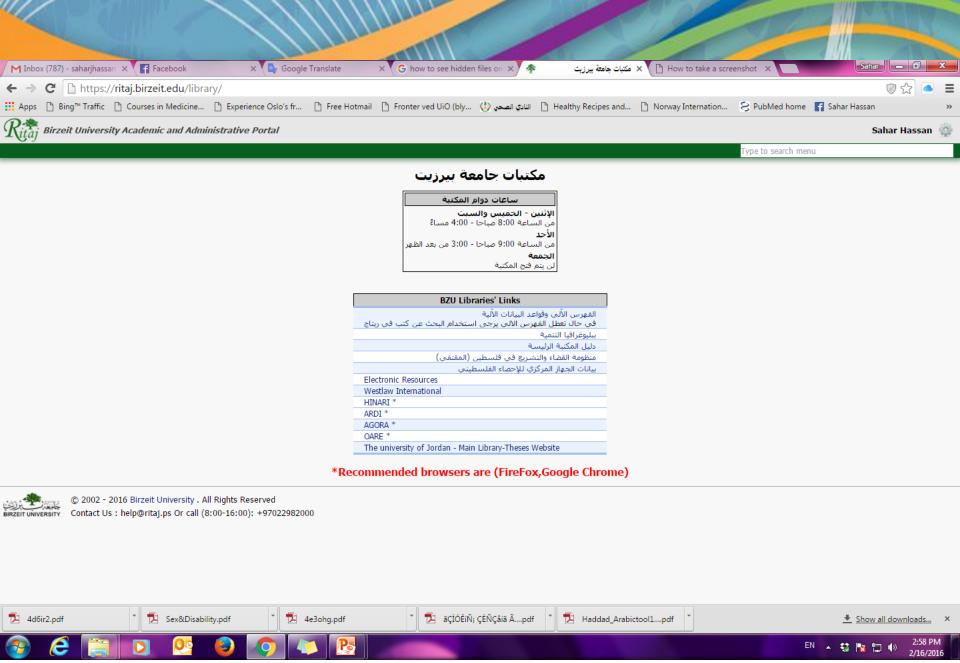
Tools for Searching (cont.)

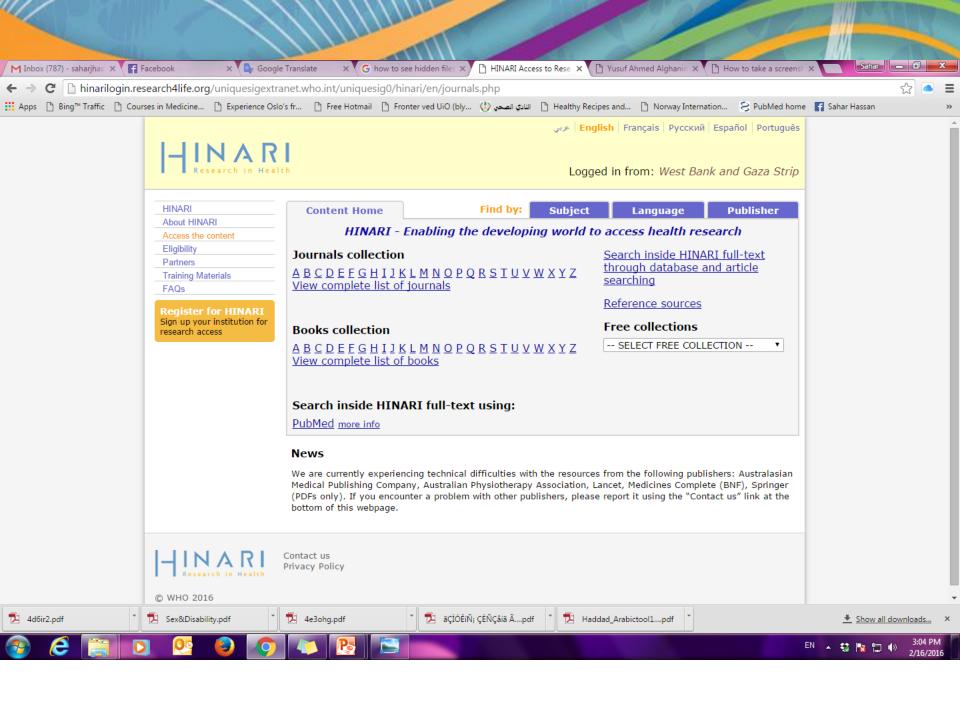
Quotation marks

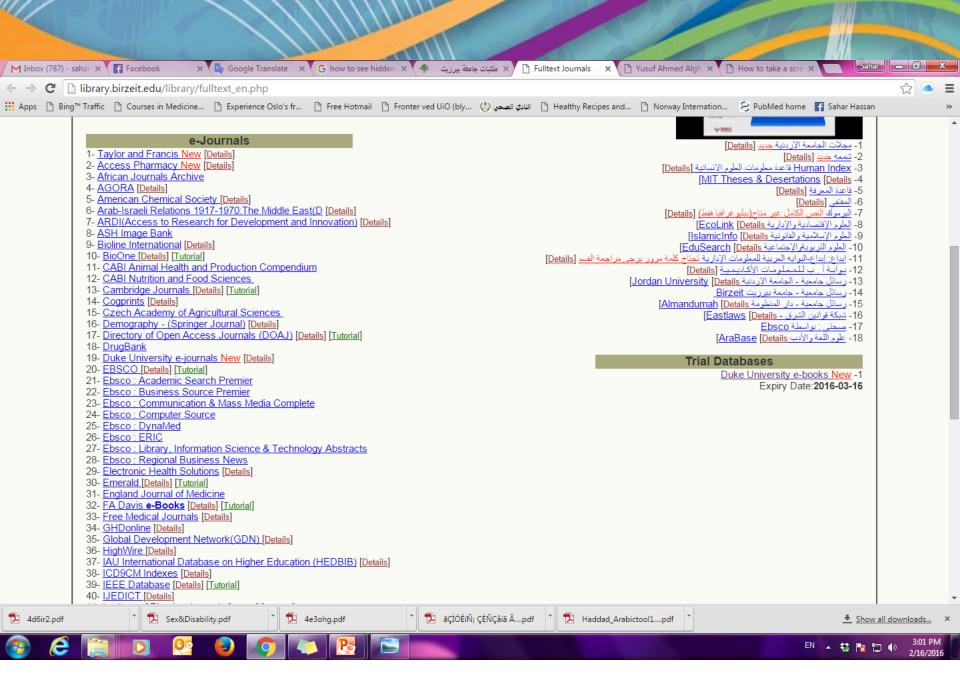
- ✓ The use of quotation marks around a phrase can change the search results.
- ✓ For example, a search for "high blood pressure" would yield overlapping but nonidentical results to high blood pressure.

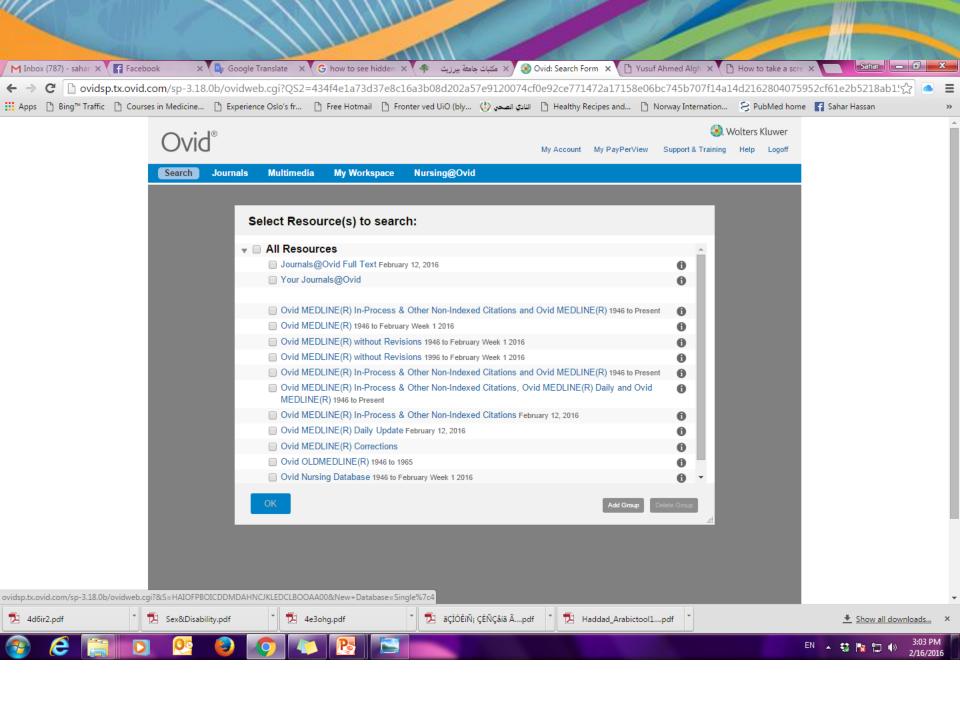
Key Databases for Nurse Researchers

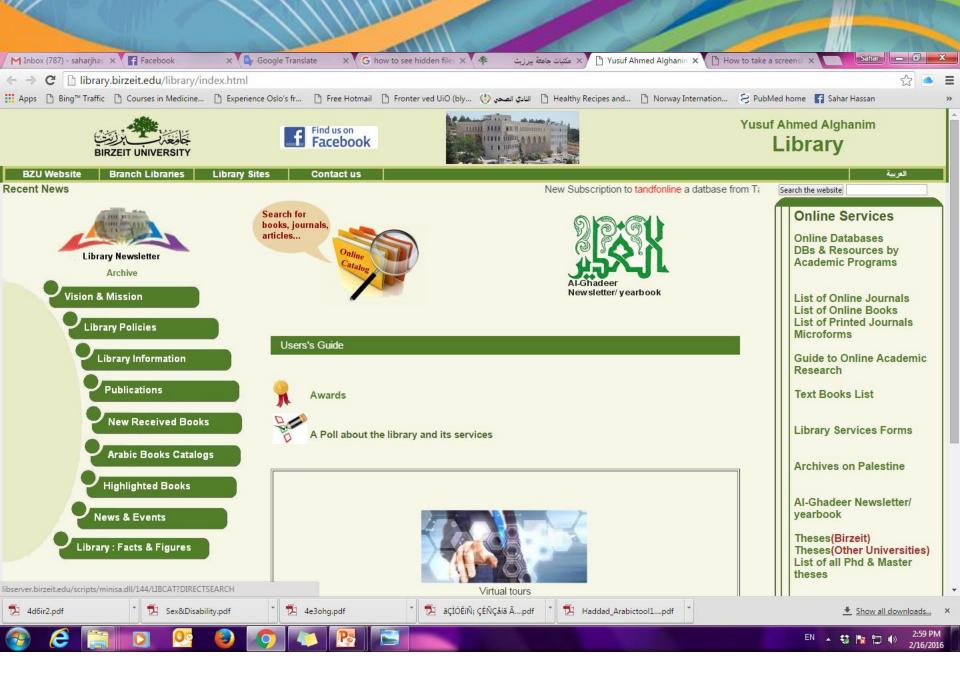
- CINAHL (Cumulative Index to Nursing and Allied Health Literature)
- MEDLINE® (Medical Literature on-Line)
- Pubmed
- Hinari

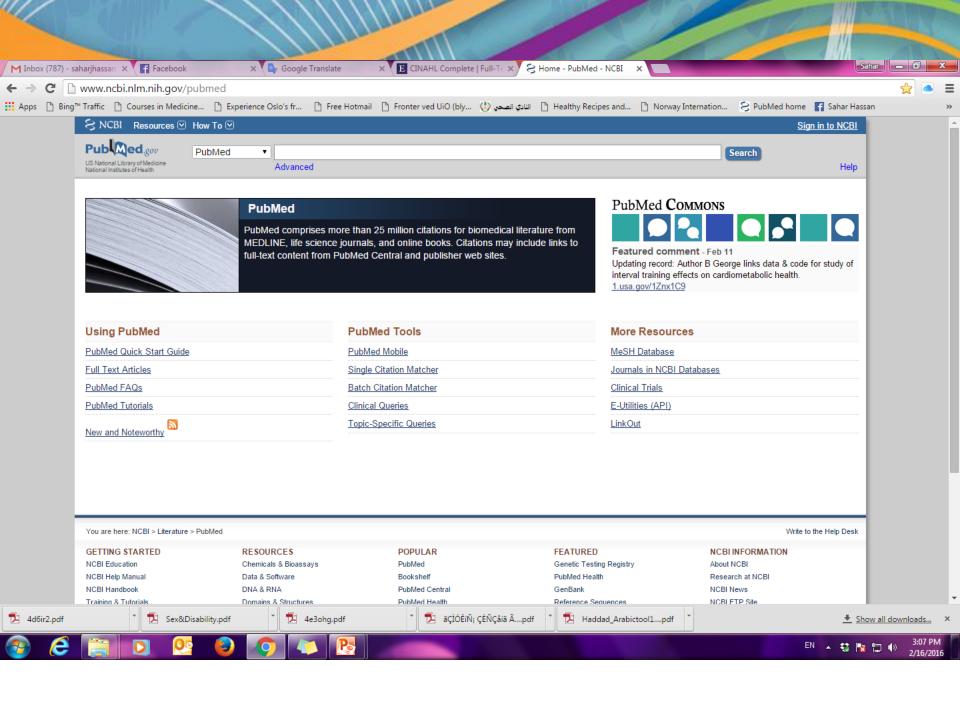






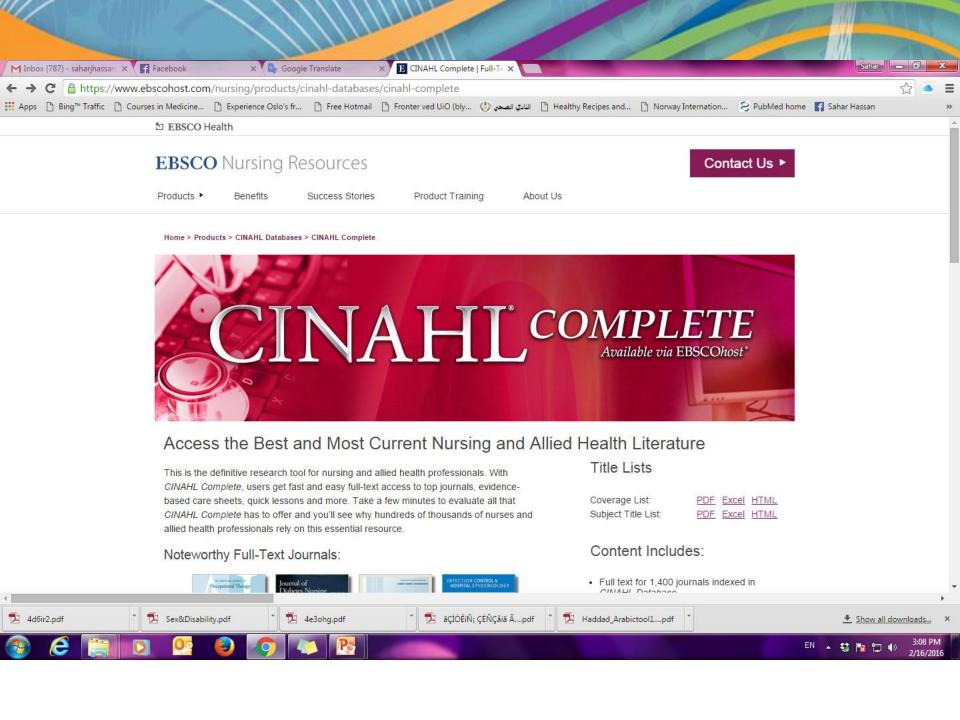






CINAHL

- Covers nursing and allied health literature from 1982 to present
- Contains citations, abstracts (for most entries), and names of any data collection instruments
- Can be searched through a commercial vendor (e.g., OVID) or directly through www.cinahl.com



Example of a CINAHL Reference

Critical Care Nursing Quarterly, 2008 Jan—Mar 31 (1): 35—47 (17 ref)

Critical Care Name of journal that

Nursing Quarterly : published the study

2008 : Year of publication

Jan—Mar : Month of publication

31 : Volume

(1) : Issue

35—47 : Pages

(17 ref) : Number of references

Screening, Documentation, and Abstracting

- After identifying potentially relevant citations, the references must be:
- ✓ Screened & retrieved (best to work with a copy of the article)
- ✓ Documented: note search actions & results
- ✓ Abstracted: notes are made of key pieces of information (e.g., using a literature review protocol)

Evaluating and Analyzing the Evidence

- Integrating and synthesizing information across studies for a research literature review have much in common with a qualitative analysis.
- In both, the focus is on identification of important themes

Analyzing the Evidence in a Literature Review

- A variety of themes (patterns) can be pursued
- Substantive themes are likely to be especially important:
 - ✓ What is the pattern of evidence?
 - ✓ How much evidence is there?
 - ✓ How consistent is the evidence?
 - ✓ How persuasive is the evidence?
 - ✓ What are key gaps in the body of evidence?

Analyzing the Evidence in a Literature Review (cont.)

Methodologic themes

- ✓ What methods have been used to address the question?
- ✓ What strategies have not been used?
- ✓ What are major methodologic weaknesses & strengths?

Generalizability themes

✓ To what types of people or settings does the evidence apply?

Documentation in Literature Retrieval

It is wise to maintain a notebook (or computer database program) to record your search strategies & results.

Keep note of information such as:

- databases searched;
- limits put on your search;
- specific keywords,
- subject headings,
- authors used to direct the search;
- studies used to find out a "Related Articles" or "descendancy" search;
- websites visited

Documentation will help you to assess what else needs to be tried—where to go next in your search

Abstracting & Recording Information

There is no fixed format for such a protocol

Usually, keep record of various aspects of a study systematically, including:

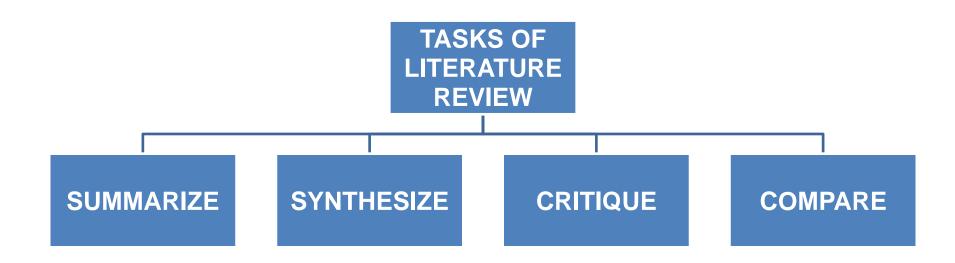
- the full citation,
- theoretical foundations,
- methodologic features,
- findings, & conclusions
- You must decide what elements are important to consistently record across studies to help you organize & analyze information

Citation	Sample	Environment	Method	Conclusions						
Colour										
Bellizzi, Crowley and Hasty (1983)	125 Adults	Furniture store	Laboratory experiment Photographic slide simulations	Warm and cool colours created different emotional responses. Customers view red retail environments as more negative and unpleasant than blue.						
Bellizzi, & Hite (1992)	70 Adult women 107 Students	Televisions shown with different colour backgrounds Furniture stores	Laboratory experiments Photographic slide simulations	Study based on PAD affect measures and approach-avoidance behaviours. More positive retail outcomes occurred in blue environments than red.						
Music										
Smith and Curnow (1966)	1100 Supermarket shoppers	Retail store	Field experiment	Time in store reduced with loud music but level of sal did not.						
Milliman (1982)	216 Shoppers	Supermarket	Field experiment	The tempo of background music influenced the pace a which customers shopped. Slow tempo music slowed customers down but resulted in increased volume of sales.						
Hui, Dubé and Chebat (1997)	116 Students	Bank branch - waiting for service.	Laboratory experiment Video simulation	The positive impact of music on approach behaviours is mediated by an emotional evaluation of the environment and the emotional response to waiting. Pleasurable music produced longer perceived waiting times.						
Lighting										
Areni and Kim (1994)	171 Shoppers	Wine store	Field experiment	The investigation found that brighter in-store lightin influenced shoppers to examine and handle more of the merchandise in the store						
Summers and Hebert (2001)	2367 Customers	Hardware store Apparel store	Field experiment	Confirmed Areni and Kims (1994) results. Increased levels of lighting will produce arousal and pleasure and increase the approach behaviours of customers.						

Literature Review Matrix Template

Author/ Date	Research Aim	Site for the study conduction	Sample	Methodology	Analysis & Results	Conclusions	Comments

Four Analysis Tasks of the Literature Review



Summary and Synthesis

In your own words, summarize and/or synthesize the key findings relevant to your study.

- What do we know about the immediate area?
- What are the key arguments, key characteristics, key concepts or key figures?
- What are the existing debates/theories?
- What common methodologies are used?

Sample Language for Summary & Synthesis

- Normadin <u>has demonstrated</u>...
- Early work by Hausman, Schwarz, and Graves was concerned with...
- Elsayed and Stern <u>compared</u> algorithms for handling...
- Additional work by Karasawa et. al, Azadivar, and Parry et. al <u>deals with</u>...

Comparison & Critique

Evaluates the strength and weaknesses of the work:

- How do the different studies relate? What is new, different, or controversial?
- What views need further testing?
- What evidence is lacking, inconclusive, contradicting, or too limited?
- What research designs or methods seem unsatisfactory?

Sample Language for Comparison & Critique

- In this <u>ambitious but flawed study</u>, Jones and Wang...
- These general results, reflecting the stochastic nature of the flow of goods, <u>are similar</u> to those reported by Rosenblatt and Roll...

Writing a Literature Review: More Tips

- Organize the material logically (e.g., work from an outline)
- Write objectively
- Summarize in your own words
- Use appropriate language (e.g., "several studies have found...")
- Conclude with a concise state-of-the-art summary of the existing evidence



END