Literature Review

Presenter: Bahram Armoon

Social Determinants of Health Research Center, Saveh University of Medical Sciences, Saveh, Iran

• • Literature review

What it is

 Scientific account of what has already been published on a specific topic

• What it is not

 Description or summary of all published information

Literature reviews must....

- 1. Be organised around a **specific research question**/ topic
- Synthesize information into a summary of what is and is not known
- 3. Identify areas of **uncertainty/ controversy**
- 4. Create questions that need further research



• Involves two processes

o 1. Searching for informationo 2. Critically appraising the literature

Literature Search using PubMed

Acknowledgement: Prof. Geert van der Heijden



Aim
Systematic approach to searching
How to use PubMed
What not to do



Time saving

- Restrict absolute number titles
- Increase number relevant titles

Reduce Numbers Needed to Read

• • PubMed: What is it?

• **PubMed** is a **free** database accessing the <u>MEDLINE</u> <u>database</u> of citations, abstracts and some full text articles on life sciences and biomedical topics.

o <u>http://www.nlm.nih.gov/services/pubm</u> <u>ed.html</u>

• • PubMed: What is in it?

 As of 8 March 2012 ~ over 21 million citations for biomedical literature

- from <u>MEDLINE</u>, life science journals, and online books.
- As of November 2011, 5,582 in Medline
- Different languages []

Systematic approach to searching

What to do and what NOT to do

Search strategy in PubMed

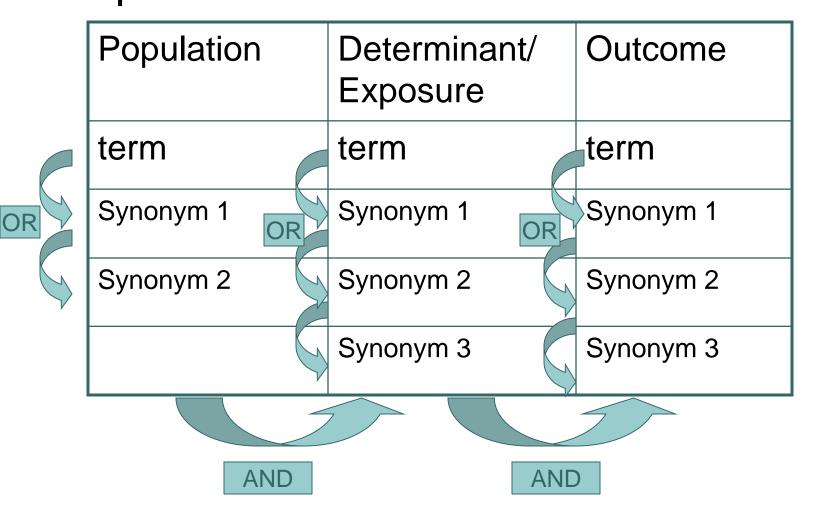
Use knowledge, logic and creativity
Start with good Research Question
Population
Determinant/ Exposure
Outcome

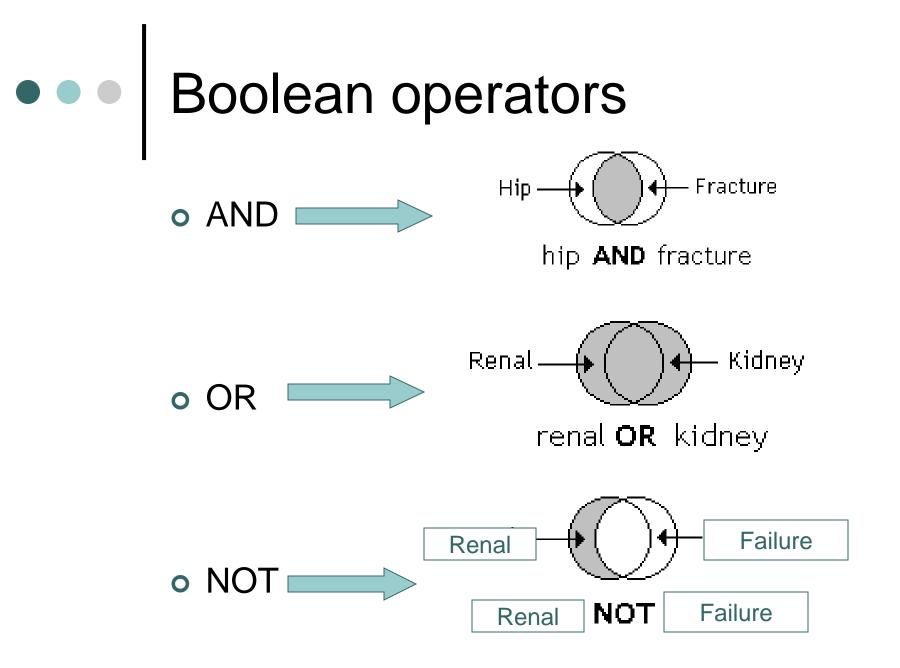
Have several terms & synonyms for all
 Be aware: UK / US spelling

Search strategy

- Search #1: Population **OR** synonyms
- Search #2: Determinant **OR** synonyms
- Search #3: Outcome **OR** synonyms
- Search #4: Combine #1, #2 and #3
 Population (#1) AND Determinant (#2) AND Outcome (#3)

Basic Search Scheme

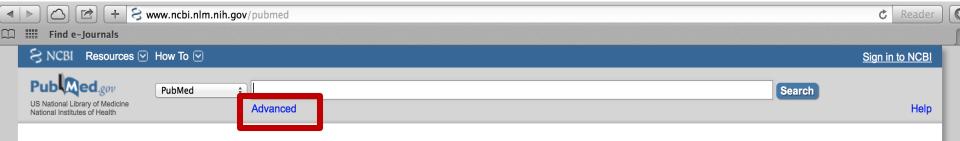




• • How to search in PubMed?

 Use 'Title/ Abstract' in search builder, under Advanced Search tab in Pubmed

o http://www.ncbi.nlm.nih.gov/pubmed





PubMed

PubMed comprises more than 24 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

PubMed Commons



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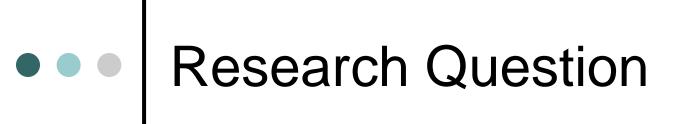
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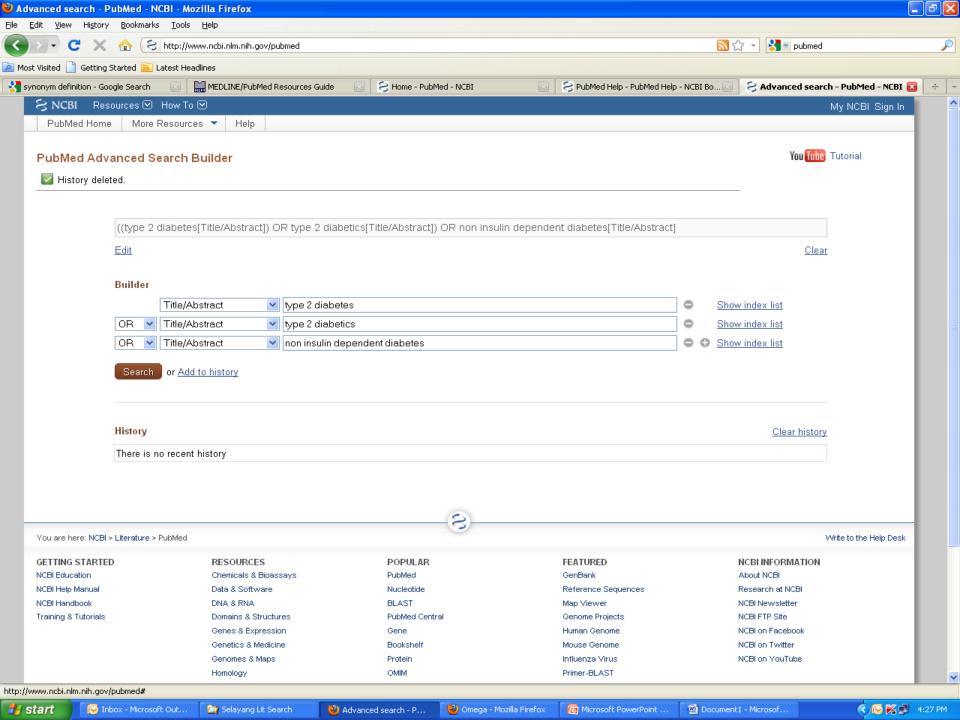


 Does renal impairment increase mortality risk in Type 2 Diabetes Mellitus?

Population: Type 2 DM
Determinant: Renal impairment
Outcome: Mortality

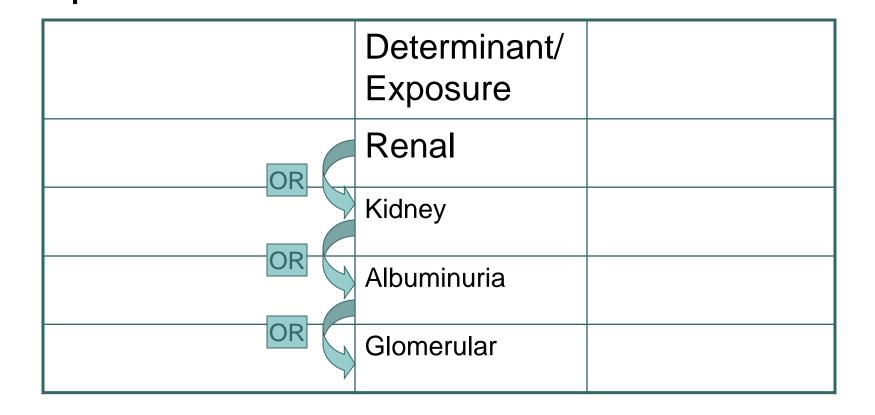
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	Population	
	Type 2 Diabetes	
OR	Type 2 diabetics	
	Non insulin dependent diabetes	



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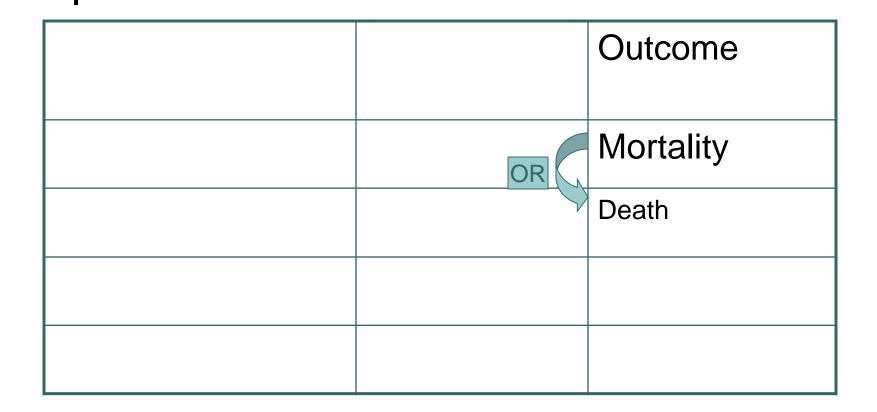




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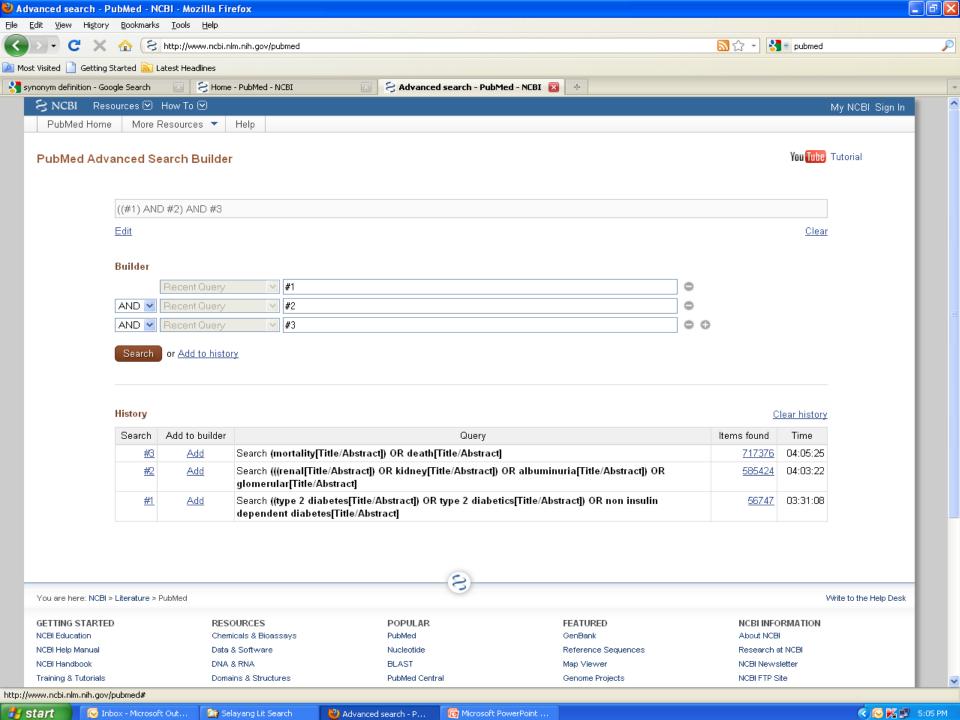
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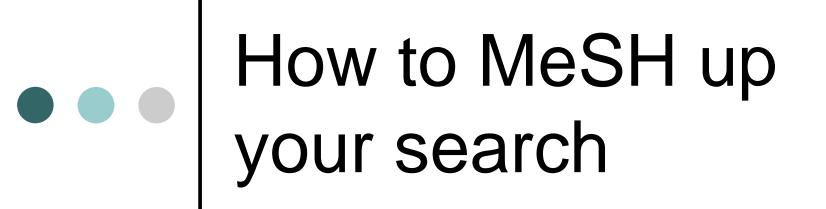
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What NOT to do

• • • MeSH database

Medical Subject Headings (MeSH)

- Systematic keyword catalogue
- Related to content
- o 5 MeSH terms per record
 - Based on title and abstract words
- Partially manual process
 - Misclassification possible
 - MeSH = US spelling

• • • MeSH database

• Author keywords: NOT used

- Only available 3 6 months after publication
- o Adjustment to terms regular
 - Eg. 2007
 - 22 terms removed
 - 494 terms added
 - 99 terms replaced

PubMed Advanced Search Builder



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What else not to do

Use sparingly wildcard/ truncation *
Eg. Random*
Look at 'search details'

• Try NOT to use Boolean term NOT



Comparison of the radial artery and saphenous vein as composite grafts in off-pump coronary artery bypass grafting in elderly patients: a randomized controlled trial. Find related data Song SW, Sul SY, Lee HJ, Yoo KJ. Database: Select Korean Circ J. 2012 Feb;42(2):107-12. Epub 2012 Feb 27. PMID: 22396698 [PubMed - in process] Find items Related citations Comparison between topical honey and mafenide acetate in treatment of burn wounds. ٠ Search details Maghsoudi H, Salehi F, Khosrowshahi MK, Baghaei M, Nasirzadeh M, Shams R. randomeffects[All Fields] OR Ann Burns Fire Disasters, 2011 Sep 30(24(3):132-7. randomely[All Fields] OR PMID: 22396671 [PubMed - in process] randomer[All Fields] OR Related citations randomezed[All Fields] OR randomforest[All Fields] OR randomi[All Fields] OR Uncovering the dynamics of cardiac systems using stochastic pacing and frequency domain analyses. Lemay M, de Lange E, Kucera JP. Search See more... PLoS Comput Biol. 2012 Mar;8(3):e1002399. Epub 2012 Mar 1. PMID: 22396631 [PubMed - in process] Related citations Recent activity Systematic Lymphadenectomy for Survival in Patients with Endometrial Cancer: A Meta-analysis. Turn Off Clear Kim HS, Suh DH, Kim MK, Chung HH, Park NH, Song YS. Q random* (754968) Jpn J Clin Oncol. 2012 Mar 6. [Epub ahead of print] PubMed PMID: 22396619 [PubMed - as supplied by publisher]

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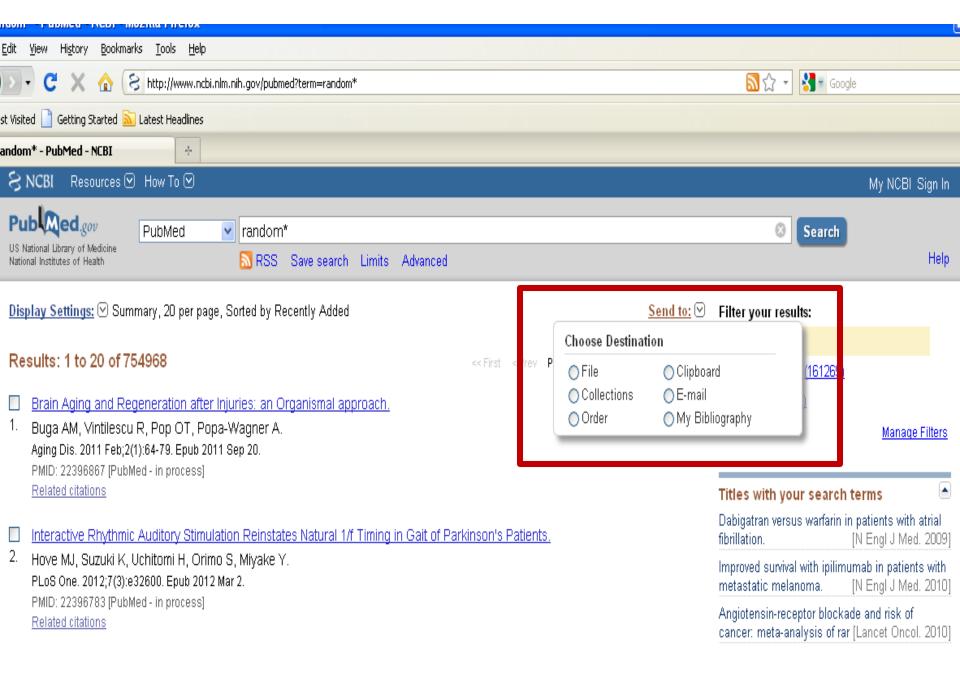
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Additional tips

Save search strategy under My NCBI
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Nurses and other allied health researchers

- RQ: What is the level of knowledge and attitudes of nursing students toward tuberculosis?
- Reason: To understand and determine whether there is a need for improvement in nursing education regarding tuberculosis.

Research Question

 What is the level of knowledge and attitudes of nursing students toward tuberculosis?

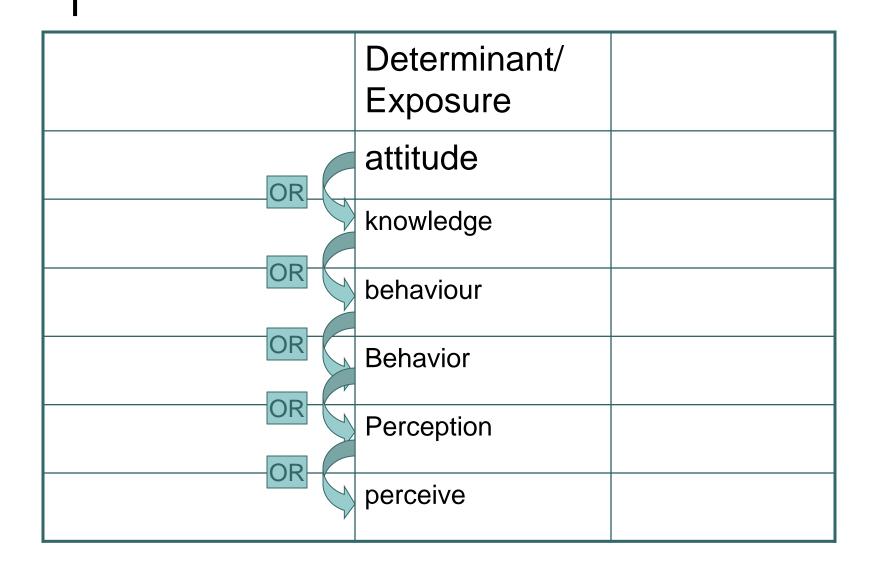
- Population: Nursing students
- Determinant: Level of knowledge and attitudes towards TB
- Outcome: None



OR

	Population		
	Nurse	? Nurse student	
	nursing		







	Determinant/	
	Exposure/	
	(Disease of	
	interest)	
OR	tuberculosis	
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Knowledge, attitudes and practices of private sector providers of tuberculosis care: a scoping review.		
 Bell CA, Duncan G, Saini B. Int J Tuberc Lung Dis. 2011 Aug;15(8):1005-17. Review. 		
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Welcome intrusions: an interpretive phenomenological study of TB nurses' relational work.		
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Practical session

• Think of a research question and prepare search terms

- 5 minutes
- Go through PubMed search together

Literature search for Qualitative Studies

- Challenges of search in database:
 - Titles are descriptive c.f. RCT which usually has clear description of population, determinants, outcome and/or research method
 - Eg: Unbearable incidents: Failure to endure the experience of Illness
 - Specific key terms difficult
 - Limited standardisation in presentation of abstract c.f RCT : poor description of study method
 - Poor indexing: inconsistent indexing in Pubmed
 - Complex and difficult!

Literature search for Qualitative Studies

- Currently, no establish search strategy for qualitative study
- Potentially useful method:
 - Use appropriate MeSH terms in search:
 - eg: qualitative research, focus groups, narration, anecdotes, grounded theory, attitude, knowledge, practice
 - Limit search to publication types
 - Use a Quality research filter
 - Pubmed Health services research queries
 - http://www.nlm.nih.gov/nichsr/hedges/search.html

Finding Qualitative Research Articles: Pubmed . http://libguides.hsl.washington.edu/c.php?g=99112&p=642322

Thank you

Any Questions?