Systematic Search for Systematic Reviews

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Types of Studies

- Primary Studies
- Secondary Studies

Primary studies

- Experiments
- Clinical trials
- Surveys

Secondary studies

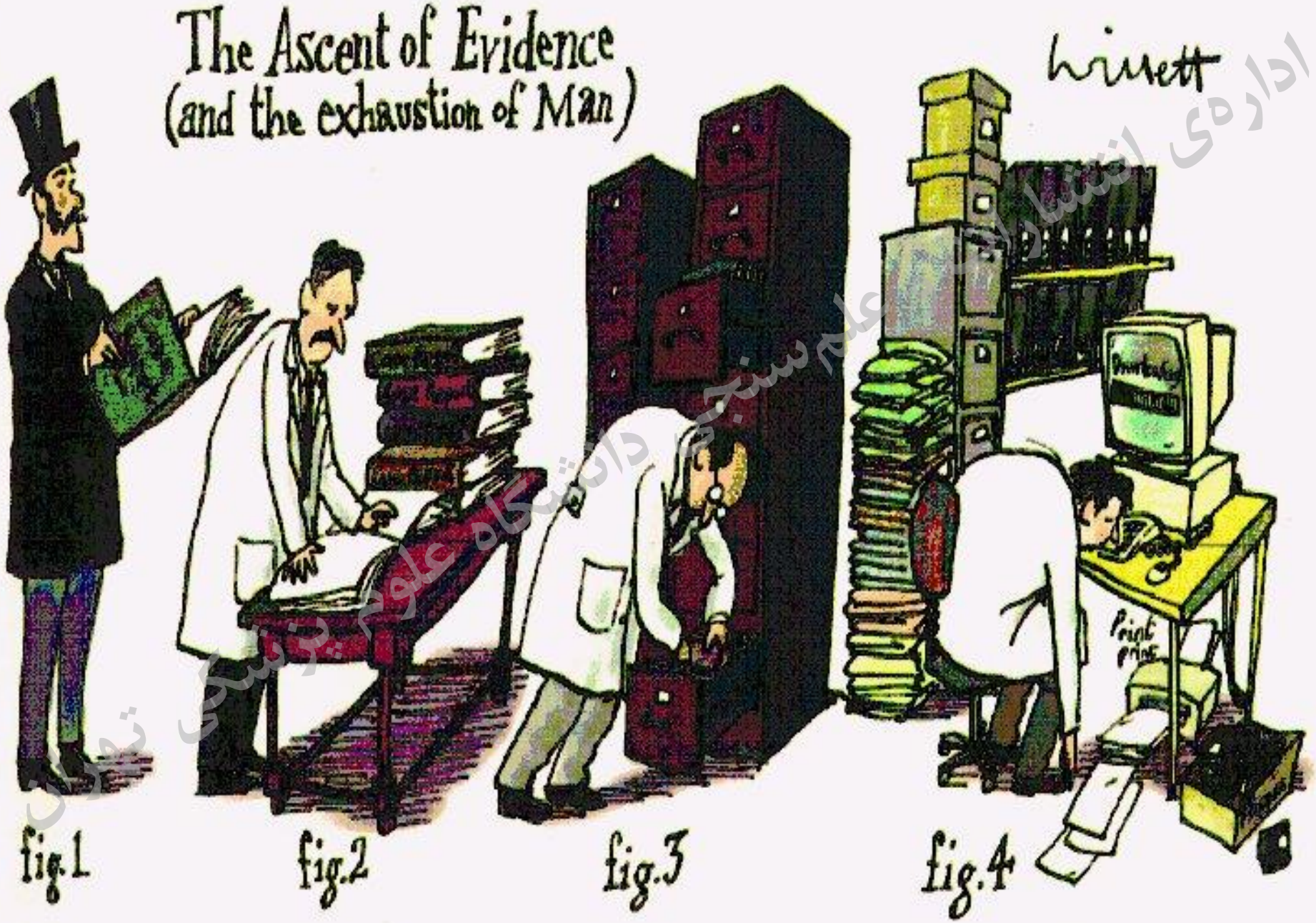
- Reviews (Overviews)
  - Narrative reviews
  - Systematic reviews & Meta-analyses
- Guidelines
- Decision analyses
- Economic analyses

Types of Medical articles

- Original Article
- Review Article
- Case Reports
- Editorial
- Short Communication (short papers)
- Letter to Editor
- Personal Views

Review articles

- Traditional Review Articles (Narrative Review)
- Systematic Review (Meta-analysis)



Medical Publishing

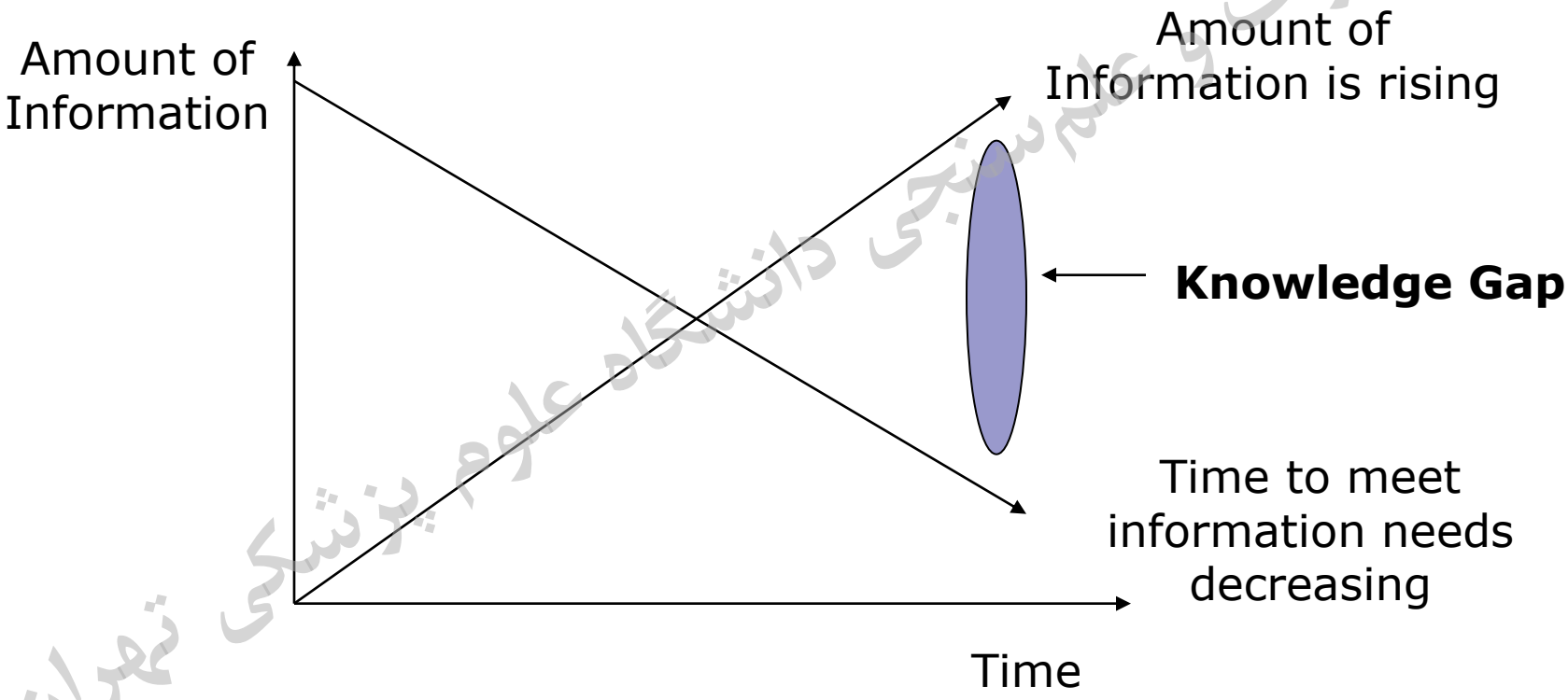
Annually:

- 20,000 journals
- 17,000 new books

MEDLINE:

- +5,000 journals
- +23 Million references
- 400,000 new entries yearly

The Problem



The Knowledge Gap

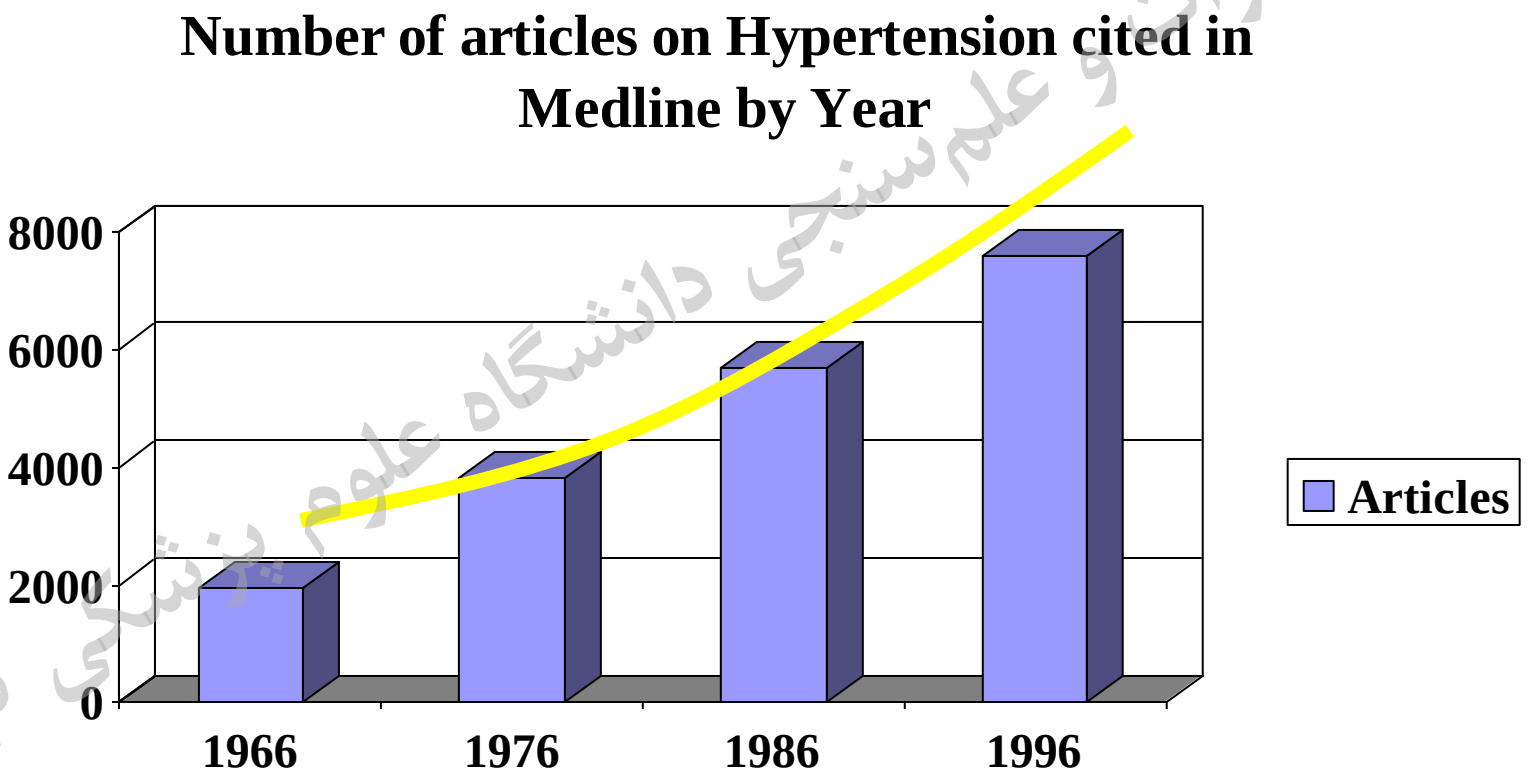
Doubling time of biomedical science was

about 19 years in 1991

Doubling time of biomedical science was

about 20 months in 2001

Increasing Knowledge



For General Physicians to keep current:

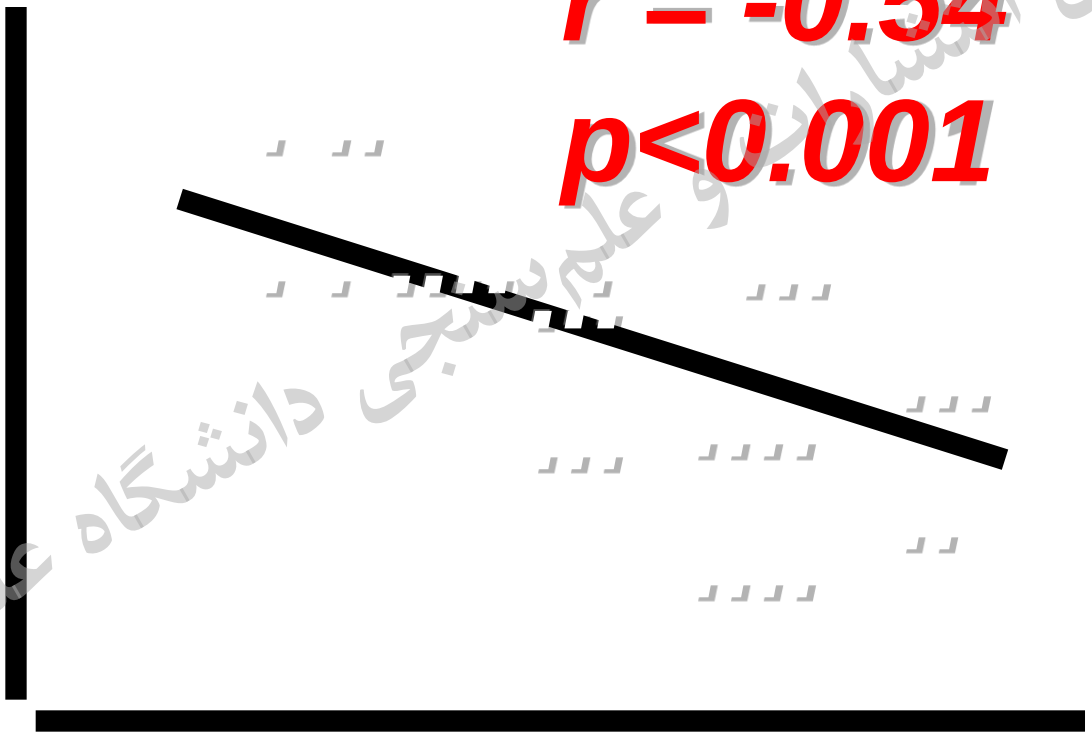
Read 19 new articles per day which appear in medical journals

19 x 2 hrs (Critical Appraisal) = 38 hrs per day

Davidoff F et al. (1995)
EBM; A new journal to help doctors identify the information they need. BMJ 310:1085-86.

The Slippery Slope

Knowledge of best current HTN care



Years since Med School graduation

Shin,et al: CMAJ;1993: 969-976

What is ‘level of evidence’?

- The extent to which one can be confident that an estimate of effect or association is correct (unbiased).

Hierarchy of Studies

Evidence Pyramid

Levels of Evidence

Level of Evidence	Type of Study
1a	Systematic reviews of randomized clinical trials (RCTs)
1b	Individual RCTs
2a	Systematic reviews of cohort studies
2b	Individual cohort studies and low-quality RCTs
3a	Systematic reviews of case-controlled studies
3b	Individual case-controlled studies
4	Case series and poor-quality cohort and case-control studies
5	Expert opinion based on clinical experience

Adapted from: Sackett DL et al. *Evidence-Based Medicine: How to Practice and Teach EBM*. 2nd ed. Churchill Livingstone; 2000.

Systematic reviews

- Postdam Consultation on Meta-analysis (Cook et al, 1995) defined a systematic review as
- **"application of scientific strategies that limit bias to the systematic assembly, critical appraisal and synthesis of all relevant studies on a specific topic"**

Systematic reviews

- **Systematic review** is a method of
  - locating,
  - appraising,
  - and synthesizing evidence
  - while making explicit efforts to limit bias
- > a quarter of a century since Gene Glass coined the term "meta-analysis" to refer to the quantitative synthesis of the results of primary studies

A ‘systematic review’, therefore, aims to be:

- Systematic (e.g. in its identification of literature)
- Explicit (e.g. in its statement of objectives, materials and methods)
- Reproducible (e.g. in its methodology and conclusions

Systematic Review

"Scientific tool which can be used to summaries, appraise, and communicate the results and implications of otherwise unmanageable quantities of research" (NHS CRD, 1996).

Systematic Review

- the process by which similar studies, identified from a comprehensive trawl of numerous sources, are summarized in easy-to-read graphical or tabular form and then their collective message or "bottom line' presented, together with implications for practice and future research (Booth & Haines, 1998).

They are not conventional Reviews

- Follow a strict methodological and statistical protocol
  - more comprehensive
  - minimising the chance of bias
  - improves transparency, repeatability and reliability

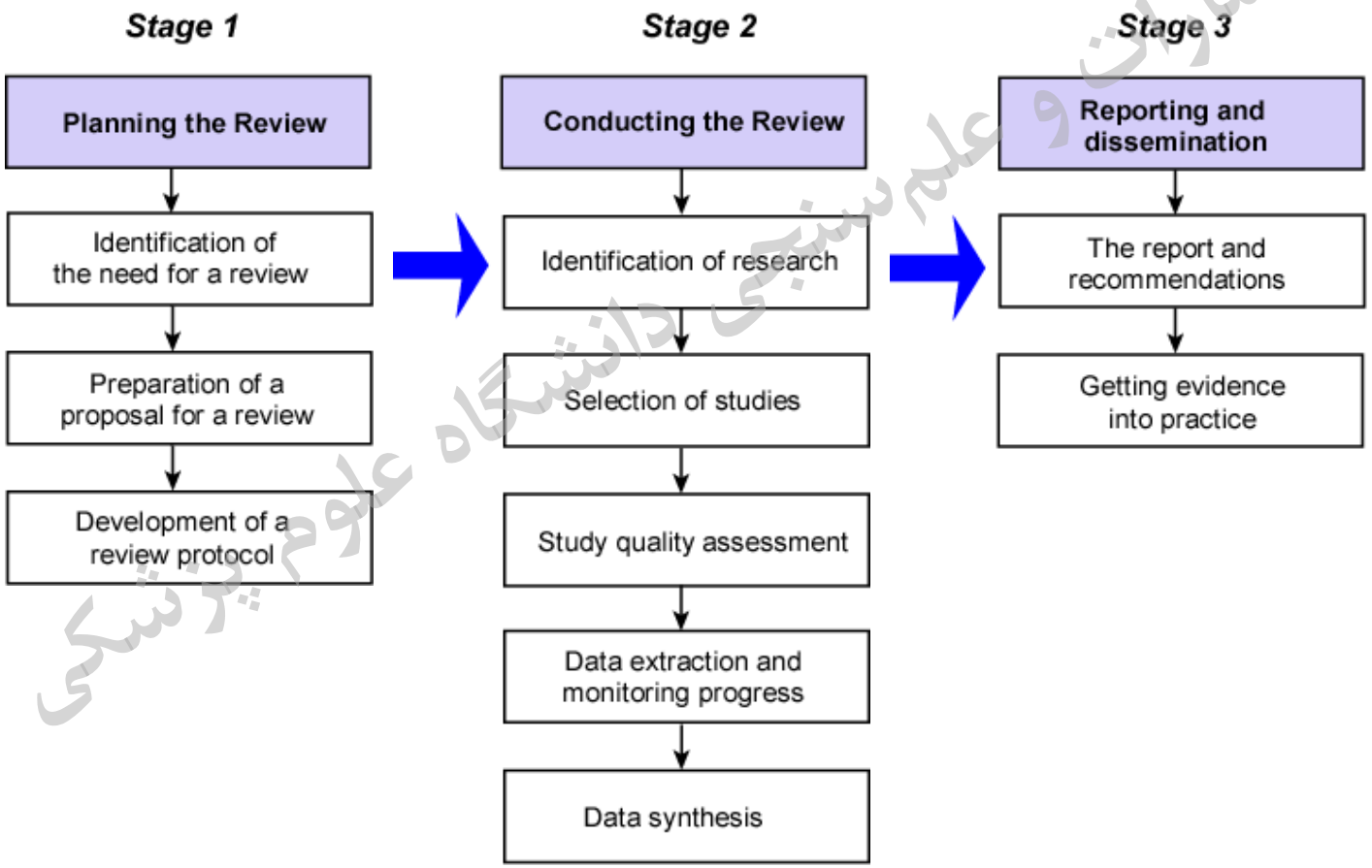
Stages of a systematic review

- Planning the review – i.e. identifying the need for a review, and documenting the methodology
- Conducting the review – i.e. finding, selecting, appraising, extracting and synthesizing primary research studies
- Reporting and dissemination – i.e. writing up and disseminating the results of the review

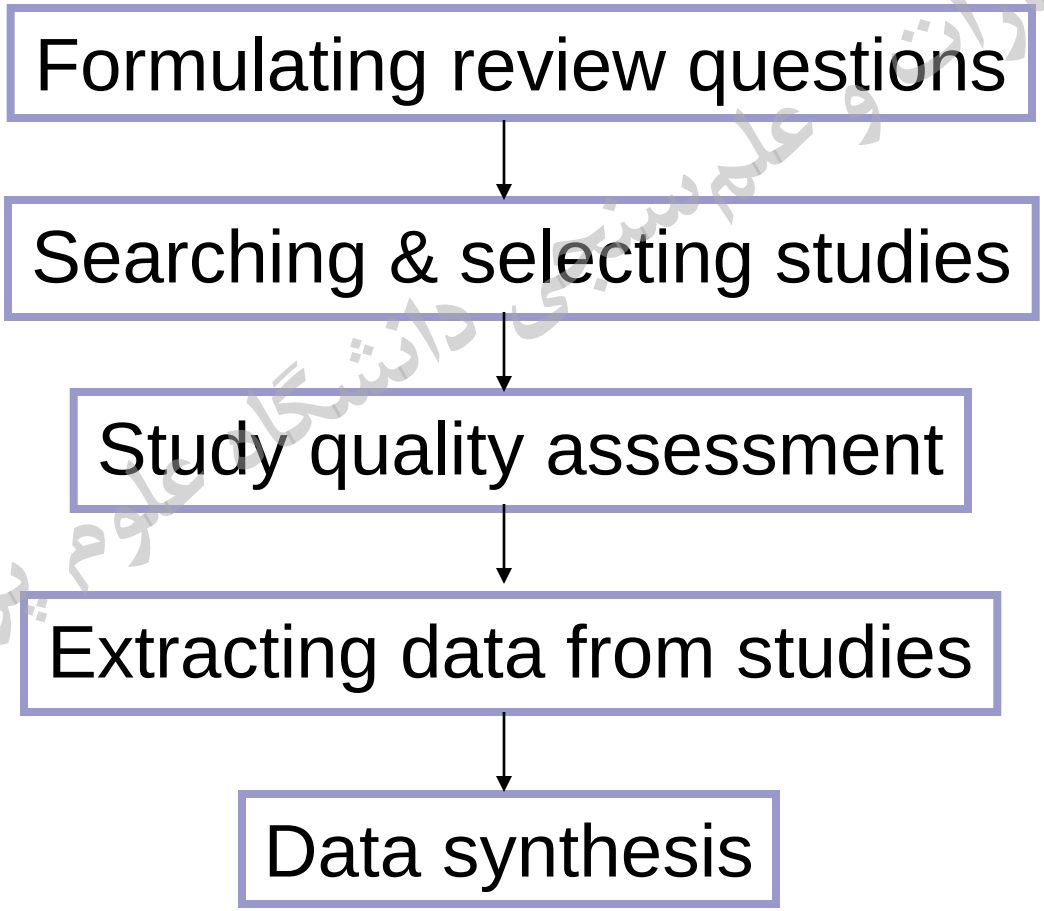
Differences Between Traditional and Systematic Reviews

(Adapted from Cook, D. J. et. al. (1997). Ann. Intern. Med. 126: 376-380)		
Feature	**Traditional Review**	**Systematic Review**
Question	**Often broad in scope**	**Focused question**
Sources & search	**Not usually specified, potentially biased**	**Comprehensive sources & explicit search strategy**
Selection	**Rarely specified, potentially biased**	**Criterion-based selection, uniformly applied**
Appraisal	**Variable**	**Rigorous critical appraisal, uniformly applied**
Synthesis	**Often a qualitative summary**	**Quantitative summary* when appropriate**
Inferences	**Sometimes evidence-based**	**Evidence-based**
***A quantitative summary that includes a statistical synthesis is a meta-analysis**		

Conducting Systematic Reviews



Steps of Doing a Systematic Review



Formulating Review Questions

- The first and most important decision in preparing a review is to determine its focus
- This is best done by asking clearly framed questions.
- Define a four part clinical question, breaking the question down into its component parts

Question components: PICO

- What types of **P**atients?
- What types of **I**nterventions?
- What types of **C**omparison?
- What types of **O**utcomes?

Ask Clinical Questions

Components of Clinical Questions

Patient/ Population	Intervention/ Exposure	Comparison	Outcome
In patients with acute MI	does early treat-ment with a statin	compared to placebo	decrease cardio-vascular mortality?
In women with suspected coronary disease	what is the accuracy of exercise ECHO	compared to exercise ECG	for diagnosing significant CAD?
In post-menopausal women	does hormone replacement therapy	compared to no HRT	increase the risk of breast cancer?

What types of participants?

- Disease or condition of interest
- Potential co-morbidity
- Setting
- Demographic factors

What types of intervention?

- Treatment
- Diagnostic test
- Causative agent
- Prognostic factor
- Exposure to disease
- Risk behavior

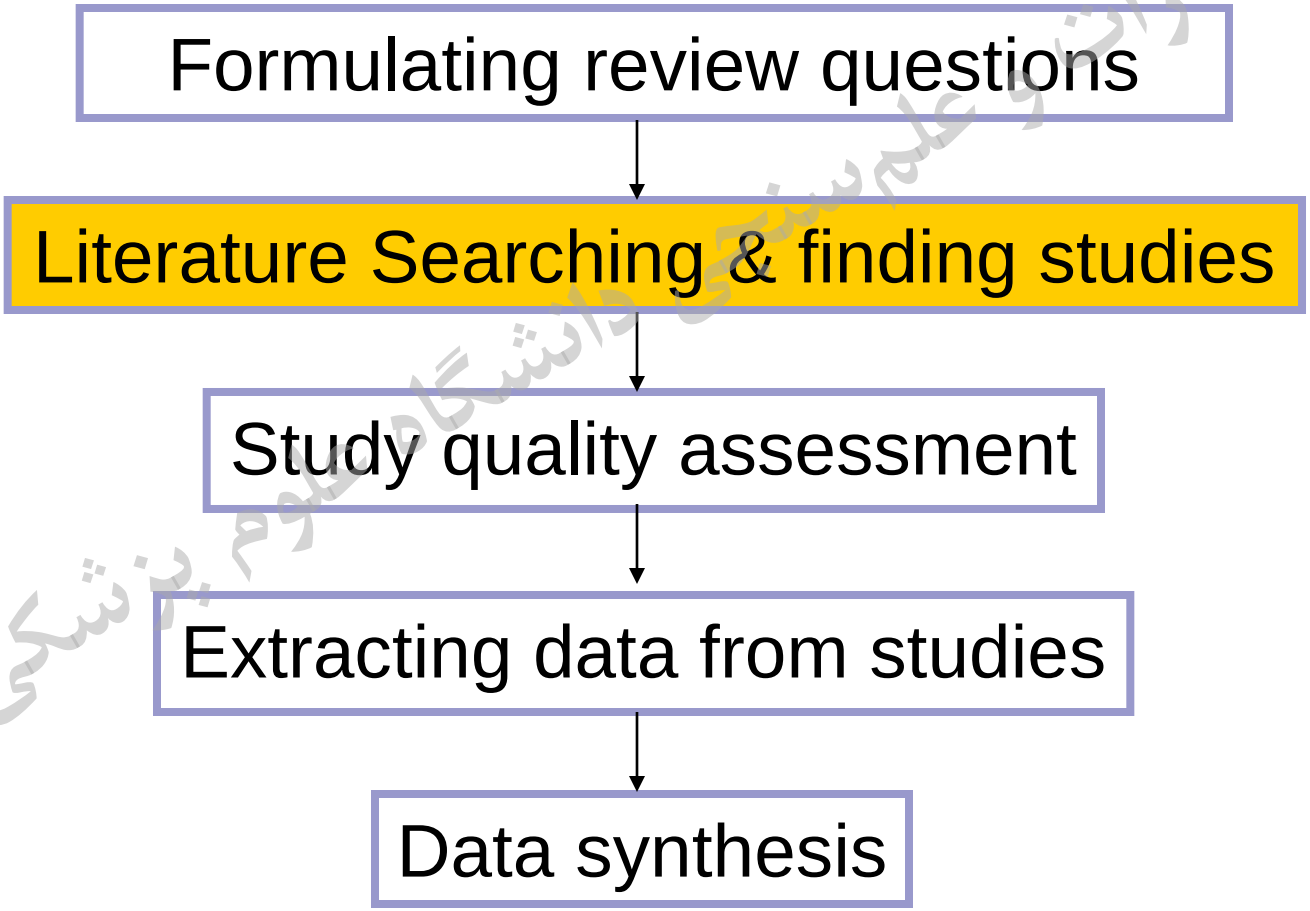
What types of outcomes?

- Mortality/Survival
- Risk of disease
- Disease free period
- Quality of life
- Work absenteeism
- Disability/ Duration and severity of illness
- Pain
- Accuracy of diagnose

Rationale for well-formulated questions

- Determining the structure of a review
- Determining Strategies for locating and selecting studies or data,
- Critically appraising the relevance and validity,
- Helping readers in their initial assessments of relevance.

Steps of Doing a Systematic Review



Steps of Literature Search

1) **Problem formulation & Keyword extraction**
   - Specify the topic or field you want to search about & extract its main concepts as keywords.

2) **Literature search**
   - Using the keywords specified in step one, we will search all the relevant available resources.

3) **Paper evaluation**
   - Appraise the found literature & select those valid ones.

Data sources for a systematic review

- **Electronic Bibliographic databases**
  - MEDLINE and EMBASE
  - The Cochrane Central Register of Controlled Trials (CENTRAL)
- **Hand searching**
- **“Grey literature”** (thesis, Internal reports, pharmaceutical industry files)
- **Checking reference lists**
- **Unpublished sources** known to experts in the specialty (seek by personal communication)
- **Raw data** from published trials

Resources to Search

- Databases
- Conference proceedings
- Clinical trials registers
- Grey Literature
- Hand searching of the last 5 years of relevant key journals

Bibliographic Databases

- Medicine:
  - MEDLINE
  - EMBASE
- Nursing:
  - CINAHL
  - British Nursing Index
- Social Sciences:
  - ASSIA
  - Social Sciences Citation Index

General Databases
(Comprehensive OR Core Databases)

- Medical Sciences
  - Medline
  - Embase
- All Sciences
  - Scopus
  - Web of Science

Specialized Databases
(Subjects Specified Databases)

- Biological Abstracts
- International Pharmaceutical Abstract
- PsycInfo
- CINAHL
- Chemical Abstracts
- Agricola
- Econlite

Citation Tracking Databases

- Web of Science
- Scopus
- Google Scholar
  - (http://scholar.google.com)

Electronic Journals & Collection

- Elsevier Science
- Ovid (LWW)
- Wiley InterScience (Included old Blackwell Science)
- Springer
- Oxford university Press
- Thieme
- Proquest
- Ebsco

Searching Steps

- Formulate focused question and search strategy in PICOS format
- Identify Appropriate electronic databases
- Search Grey literature resources
- Conferences seminal to topic area
- References List Review
- Finally combine with appropriate study design

Basic Search strategies

1) Subject Search (Thesaurus or MeSH Search)
2) Free Text Search

Selecting studies

- performing a comprehensive, objective, and reproducible search of the literature
- selecting studies which meet the original inclusion and exclusion criteria

can be the most time-consuming and challenging task in preparing a systematic review

Boolean Operators

1. AND
2. OR
3. NOT
4. ADJ

Boolean Logics

Shaded areas indicate retrieval	Search Statement	Types of records retrieved
	stress **AND** anxiety	Documents that have **both** stress **AND** anxiety
	stress **OR** anxiety	Documents that have **either** stress **OR** anxiety
	stress **NOT** anxiety	Documents that have stress **but NOT** anxiety

Truncation

- For singular, plural or word-roots findings.
- Examples:

  child* will retrieve **children, childhood, childlike**

  adolescen* will retrieve **adolescent, adolescence, adolescently**

  derm* will retrieve **dermal, dermatitis, dermatology, dermoid, dermatologist, dermatopathologist, …**

- Be very careful of small word roots when looking for plurals…

cat*	rat*
catastrophe	rational
cataract	ratify
category	ratio

Generating a search strategy

- Multiple electronic databases and the internet using a range of Boolean search-terms
- Foreign language searches
- Include grey literature to avoid publication bias (see subsequent slides)
- Search bibliographies and contact experts

Developing a Search Strategy

- It is always necessary to strike a balance between comprehensiveness and precision when developing a search strategy.

General Search Rules

- The overall goal is to locate all published studies relevant to key questions.
- A balance must be achieved between recall and precision:
- Recall = how much of the relevant literature is retrieved.
- Precision = how much of the retrieved literature is relevant.

Developing an Effective Search

- Take advantage of the search utilities of each database
- Identify variant terminology
- Consult with a research librarian to help you

Selecting databases

- Generally MEDLINE, EMBASE, the Cochrane Database of Systematic Reviews (CDSR), Cochrane Central Register of Controlled Trials (CCTR), Database of Abstracts of Reviews of Effectiveness (DARE), PubMed, Web of Science and/or Scopus, will be included in every systematic review

Selecting databases

- Most disciplines have specialized databases.
- Depending on the topic, the searcher may have to search different databases.

Selecting databases

- Agriculture
  - CAB Abstracts
- Biomedicine
  - PubMed
  - Cochrane Library
  - CINAHL (nursing and allied health)
  - Psycinfo
  - Toxnet

Selecting databases

- Economics/Business
  - ABI/Inform
- Social Sciences
  - ERIC (education)
  - Sociological Abstracts
- Multi-disciplinary databases
  - SCOPUS
  - Web of Science

An electronic search strategy generally has three sets of terms:

- 1) terms to search for the health condition of interest;
- 2) terms to search for the intervention(s) evaluated;
- 3) terms to search for the types of study design to be included (such as randomized trials)

Vitamin C for preventing and treating the common cold

- The following electronic databases were searched for reports of trials: the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library Issue 2, 2004); MEDLINE (January 1966 to June 2004); and EMBASE (1990 to June Week 23 2004).
- We ran the following search strings in combination with the search strategy developed by the Cochrane Collaboration for identifying randomised controlled trials (Dickersin 1994)
- MEDLINE and CENTRAL were searched using the following search strategy:

- 1 exp Common Cold/
- 2 common cold$.mp.
- 3 exp RHINOVIRUS/
- 4 rhinovir$.mp.
- 5 or/1-4
- 6 exp Ascorbic Acid/
- 7 ascorbic acid.mp.
- 8 vitamin c.mp.
- 9 or/6-8
- 10 5 and 9
- EMBASE search strategy:
- 1 exp Common Cold/
- 2 common cold$.mp.
- 3 exp Rhinovirus/
- 4 rhinovirus infection$.mp.
- 5 or/1-4
- 6 exp Ascorbic Acid/
- 7 vitamin c.mp.
- 8 or/6-7
- 9 5 and 8

Structure of a search strategy

- Based on your eligibility criteria
- Start with the 2 or 3 most important concepts
- Focus on those most likely to be found in title & abstract

P participants

I intervention

~~C comparison~~

~~O outcomes~~

S study design

Structure of a Search Strategy

- Example:
  Helmets for preventing head and facial injuries in cyclists

P cyclists

I helmets

S RCTs

Turning concepts into search terms

- Aim for high sensitivity
  - Express each concept in as many ways as possible
  - Minimise the risk of missing a relevant study
  - Will lead to lower precision – find a balance
- Use both text words and controlled vocabulary

Turning concepts into search terms

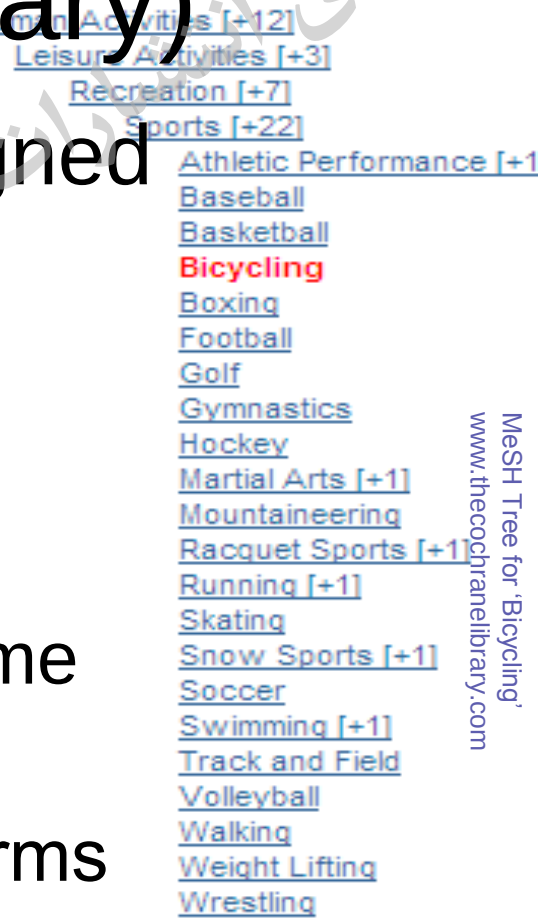
- Preliminary and pilot searching may help test your strategy
- Strategies must be translated for every database or interface

Text Words Searching

- Words appearing in title and/or abstract of the record
- Include synonyms, related terms, opposites, international terms, alternative spellings, plurals
  - E.G. Brain injury, head injury, skull fracture
- Truncation and wildcards – * $?
  - Protect* = protects, protective, protection
  - But be aware: car* = cars (but also carcinoma)

Subject Searching (Controlled vocabulary)

- standardised subject terms assigned by indexers
  - e.g. Medline = MeSH, Embase = EMTREE
  - identifies relevant articles even if different terms are used for the same concept
  - ‘explode’ to include all narrower terms
- controlled vocabulary must be translated for each database



Study design filters

- A set of search terms to limit your results to specific study designs (e.g. Rcts)
- Research has been done to identify the most sensitive and efficient search terms
- Select according to:
  - Database and interface to be searched
  - Study designs needed for your review
- Do not use an RCT filter when searching CENTRAL

Cochrane Highly Sensitive Search Strategy

Sensitivity-maximising version, MEDLINE (PubMed)

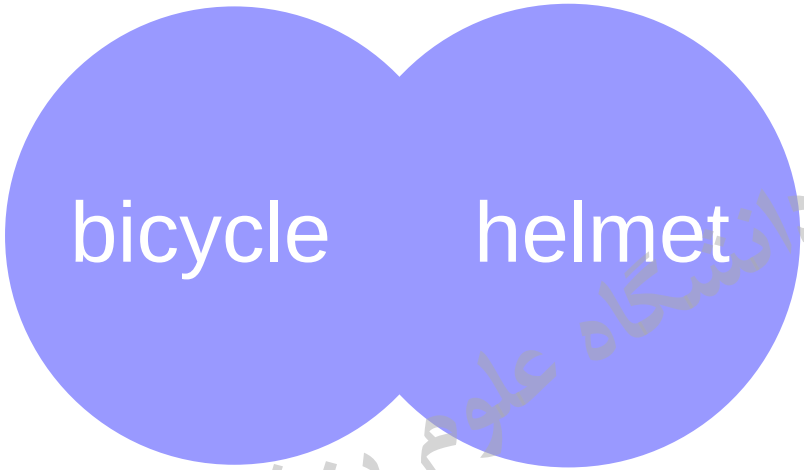
1. randomized controlled trial [pt]
2. controlled clinical trial [pt]
3. randomized [tiab]
4. placebo [tiab]
5. drug therapy [sh]
6. randomly [tiab]
7. trial [tiab]
8. groups [tiab]
9. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8
10. animals [mh] NOT humans [mh]
11. #9 NOT #10

Cochrane Highly Sensitive Search Strategy

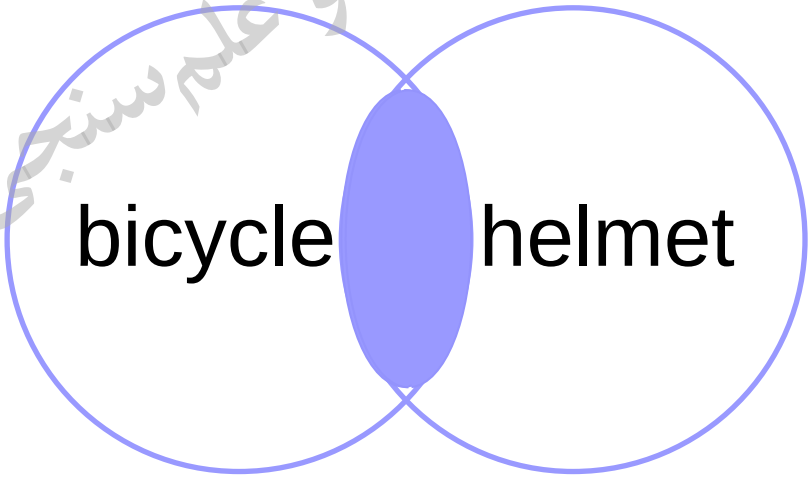
Sensitivity- and precision-maximising version, MEDLINE (PubMed)

1. randomized controlled trial [pt]
2. controlled clinical trial [pt]
3. randomized [tiab]
4. placebo [tiab]
5. clinical trials as topic [mesh: noexp]
6. randomly [tiab]
7. trial [ti]
8. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7
9. animals [mh] NOT humans [mh]
10. #8 NOT #9

Boolean Operators



OR – to expand search

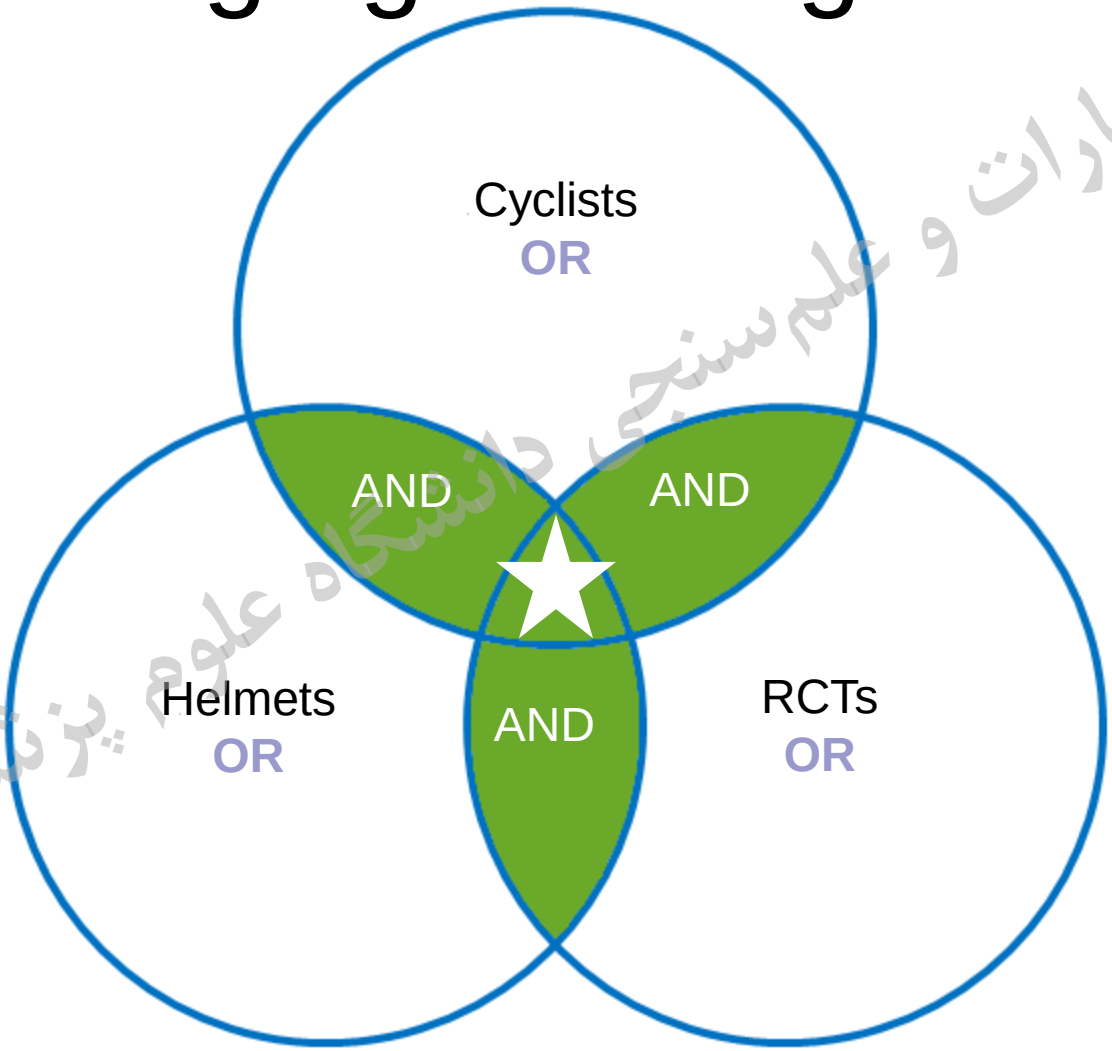


AND – to narrow search

Now Bringing It all Together

Population		Intervention		Study design
bicycl*	AND	helmet*	AND	(see Cochrane HSSS)
OR		OR		
cycling		Head Protective Devices/		
OR				
cyclist*				
OR				
Bicycling/				

Bringing it all together



Sample CENTRAL strategy

Cycling

1. bicycl*:ti,ab
2. cycling:ti,ab
3. cyclist*:ti,ab
4. MeSH descriptor Bicycling, this term only
5. #1 or #2 or #3 or #4

Helmets

6. helmet*:ti,ab
7. MeSH descriptor Head Protective Devices, this term only
8. #6 or #7
9. #5 and #8

Sample PubMed strategy

Cycling

1. bicycl* [tiab]
2. cycling [tiab]
3. cyclist* [tiab]
4. bicycling [mesh: noexp]
5. #1 OR #2 OR #3 OR #4

Helmets

6. helmet* [tiab]
7. head protective devices [mesh: noexp]
8. #6 OR #7

RCTs

9. randomized controlled trial [pt]
10. controlled clinical trial [pt]
11. randomized [tiab]
12. placebo [tiab]
13. drug therapy [sh]
14. randomly [tiab]
15. trial [tiab]
16. groups [tiab]
17. #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16
18. animals [mh] NOT humans [mh]
19. #17 NOT #18
20. #5 AND #8 AND #19

Also Note Biases in Papers Retrieval

- Publication Bias
- Fulltext Bias
- Language Bias
- Database Bias
- …
- ..

Publication Bias

- “Publication bias refers to the greater likelihood that studies with positive results will be published”

- *JAMA* 2002;287:2825-2828

Publication Bias

- Positive trials are more likely to be submitted for publication
- Positive trials are more likely to be published
- Positive trials are more likely to be published quickly

- Stern and Simes *BMJ 1997;*315:640-645

Publication Bias

Papers with more ‘interesting’ results are more likely to be:

- Submitted for publication
- Accepted for publication
- Published in a major journal
- Published in the English language

Publication bias and outcome reporting bias: agomelatine as a case example. Howland, R. H. *Journal of Psychoscocial Nursing and Mental Health Services* 49(9), September 2011

Publication Bias

- Sterling study: 97% of papers published in 4 psychology journals showed statistically significant results at alpha level 5% !
- Dickersin study: compared published RCTs with unpublished ones .results:55%pub,15% unpub, favoring new therapy!
- Mahoney stuD:75 reviewers asked to review different versions of a fictitious manuscript. ”introduction” & ”methods” : identical, ”results” & “discussion” : different (+/ambiguous /-). results of reviewers evaluation : manuscripts with “positive” results received higher average scores!

Publication Bias

- 1)…if they had reached sig.
- 2) positive result
- 3) interesting results for both reviewers & authors!
- 4) language bias (ENG) in being included in a meta-analysis.

How to Bypass Publication Bias

- Searching Libraries for Thesis & Research Reports
- Searching Registries
- Searching Grey Literature
- Searching especial Journals like:

"*Journal of Negative results in Biomedicine*"

Grey Literature

- Grey is between White & Black!
- “There are many definitions of grey literature, but it is usually taken to mean literature that is not formally published in sources such as books or journal articles.” (Cochrane Handbook, 2011)

Grey Literature

- Study (Hopewell et al., 2008): reviewed five systematic reviews conducted to evaluate the impact of grey literature in meta-analyses of randomized controlled trials
  - All systematic reviews found more positive results with published literature than with grey literature (risk odds ratio = 1.09; 95% confidence interval = 1.03–1.16)

Examples of Grey Literature

- Doctoral dissertations
- Technical or research reports from government agencies
- Reports from scientific research groups
- Working papers from research groups or committees
- Some conference proceedings and official publications

Grey Literature

- Depending on the topic, the searcher may have to search:
  - Conference websites
  - Trial registries
  - Governmental research, e.g., National Technical Reports Library at: http://projectreporter.nih.gov

Grey Literature

- Depending on the topic, the searcher may have to search:
  - Grey Literature Report at: http://www.greylit.org
  - Google or Google Scholar
  - GreySource at: http://www.greynet.org

Searching Grey Literature

- Opengrey (system for information on grey literature) at: http://www.Opengrey.Eu/
- Libraries of specialist research organisations and professional societies

Searching Grey Literature

- www.opendoar.org
- Directory of Open-Access repositories. Cross-searches the open-access repositories of 1000s of universities, world-wide. Many references contain full-text working papers alongside references to journal articles, these and reports. Full-text available where copyright allows.

Good Search Strategy

- A good search strategy for systematic reviews should be:
- Sensitive
- Specific, and
- Systematic

Good Search Strategy …

- The search strategy should be sensitive, so important information is not missed.
- It should be specific, so you don't have to work through hundreds or even thousands of articles to find the one that meets your criteria.
- By systematic we mean that there is a carefully defined strategy that can be repeated by others if necessary..

Clinical Trials Registers

- ClinicalTrials.gov: US National Institutes of Health collection of clinical studies sponsored by the NIH, other Federal agencies, the pharmaceutical industry, and non-profit organizations in the United States. This database contains records of @131,000 trials.
- http://clinicaltrials.gov/

Clinical Trials Registers

- World Health Organization International Clinical Trials Registry Platform: The WHO ICTRP aims to facilitate the prospective registration of the WHO Trial Registration Data Set for all clinical trials.
- http://www.who.int/ictrp/en

Clinical Trials Registers

- metaRegister of Controlled Trials (mRCT): The metaRegister of Controlled Trials (mRCT) provides a search interface to a number of trial sources so that a number of registers can be searched simultaneously. http://controlled-trials.com/mrct

Clinical Trials Registers

- CenterwatchLists recruiting trials with information for patients as well as professionals.
  http://www.centerwatch.com/

Clinical Trials Registers

- IFPMA (International Federation of Pharmaceutical Manufacturers & Associations) Clinical Trials Portal
- Searchable database of comprehensive information on ongoing clinical trials and results of completed trials conducted by the pharmaceutical industry.
  http://www.ifpma.org/

Clinical Trials Registers

- GlaxoSmithKline Clinical Study Register: The Clinical Study Register provides an easily accessible repository of data from GSK-Sponsored Clinical Studies.
- http://www.gsk-clinicalstudyregister.com/

Registries Web Sites

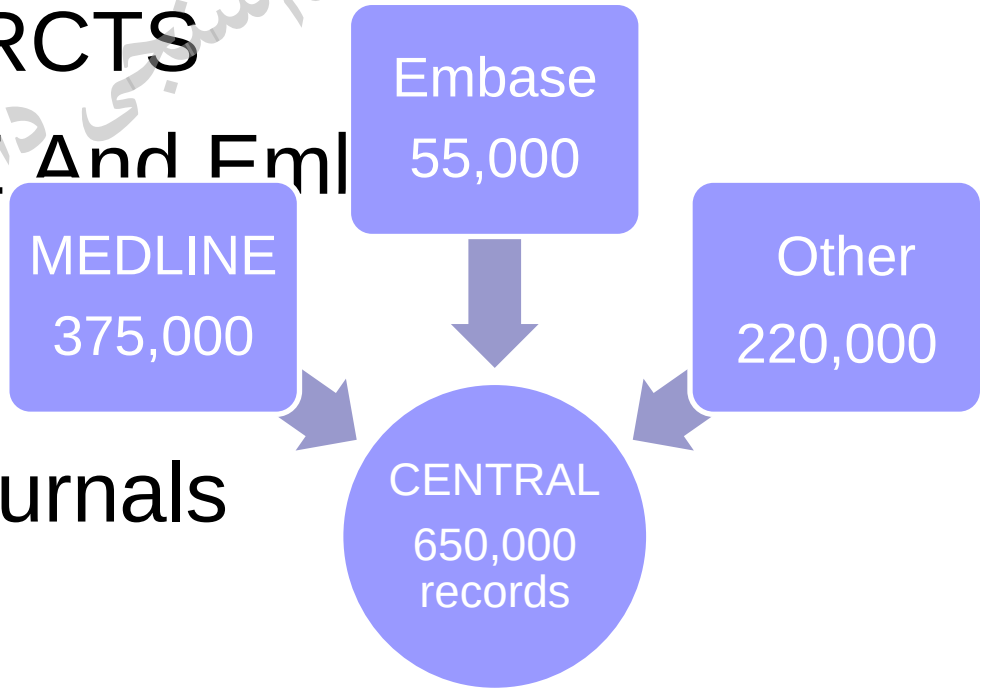
- ClinicalStudyResults.org: http://www.clinicalstudyresults.org/home/
- Current Controlled Trials: http://www.controlled-trials.com/mrct/
- Australian New Zealand Clinical Trials Registry: http://www.anzctr.org.au/trialSearch.aspx
- Netherlands Trial Registry: http://www.trialregister.nl

Other Clinical Trials Resources

- CENTRAL: The Cochrane Central Register of Controlled Trials (CENTRAL) is a key resource for those preparing and maintaining systematic reviews.
- CENTRAL includes citations from MEDLINE, EMBASE, as well as other published and unpublished sources
- http://www.thecochranelibrary.com/view/0/index.html

Cochrane Central Register of Controlled Trials (CENTRAL)

- Access Via *The Cochrane Library*
- RCTS And Quasi-RCTS
- Includes MEDLINE And Eml Records
- Records From Hand searching Journals And Conferences



Conference Papers

Need to try and get full-text if possible

Can be found on:

- Medline – search for Congresses and then combine with a topic using AND
- Web of Science
- SciVerse Scopus

Conference Papers

- Conference Proceedings Citation Index-Science (CPCI-S) and Conference Proceedings Citation Index Social Science & Humanities (CPCI-SSH) are both available via Thomson Reuter's Web of Science.
- They include reports from conferences, symposia, seminars, colloquia, workshops.

Conference Papers and Dissertations

- Conference Papers Index: Available via a number of providers, this database provides access to international research papers and findings presented at scientific and technical conferences and meetings throughout the world.
- http://www.cas.org/products/stn/dbss

Theses and Dissertations

- Dissertation Abstracts: Dissertation Abstracts lists American dissertations accepted at accredited institutions 1861 onwards; Masters theses have been included since 1962; and since 1988, the database includes citations for dissertations from 50 British universities .
- http://www.proquest.com

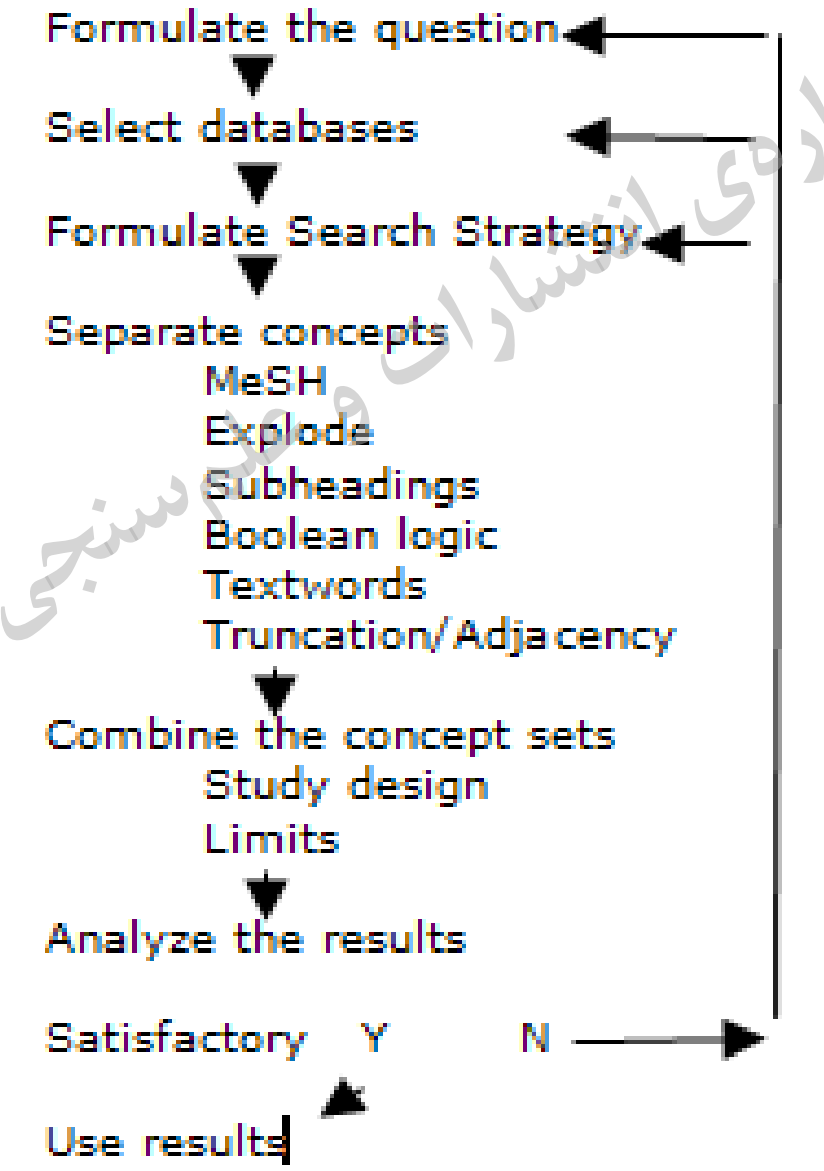
Theses and Dissertations

- Some Ovid databases e.g. CINAHL and PsycInfo include dissertations
- WorldCat dissertations and Theses (OCLC) can be accessed via King's databases page

Theses and Dissertations

- British Library's eThos contains over 350,000 doctoral theses. site is available at: http://ethos.bl.uk

- Keep adjusting the strategy until as many articles as possible are found, based on the content of the database
- Note this is a very iterative, but essential process along the way to an optimal search strategy!
- Use the information specialist advise on this!



Developing a search strategy

Sensitivity and Specificity

- Sensitivity: emphasis will be the most relevant articles, but will probably include some less relevant ones

- Specificity: emphasis will be mostly relevant articles, but will probably omit some

Related Softwares Used

- Systematic Review Specific Tools
  - RevMan - Free
  - GradePro
  - Comprehensive Meta-Analysis (CMA)
  - DistillerSR

Related Softwares Used

- Systematic Review Softwares
- General Bibliography Softwares

Related Softwares Used

- General Bibliography Tools
  - EndNote
  - RefWorks
  - Zotero - Free
  - Mendeley
  - Papers

Managing References/PDFs/Bibliographies

- Database Formation
- Data Merge & Integration
- Duplicate Retrieval & Deletion
- PDF downloading and linking
- Creating Groups
- What tools are available…?

Use Bibliographic Management Softwares

- Export search results to your preferred Bibliographic Management Softwares
- Electronically collect, organize and manage your references in a personal database
- Easily and automatically format bibliographies, footnotes, in-text citations and images into almost any output style

Use Bibliographic Management Softwares

- Automatically link references to full-text articles, eliminating unwieldy storage of paper copy
- Utilize advanced searching, global editing, sorting and duplicate record management
- Automatically preview formatted references

Use Bibliographic Management Softwares

- Edit output styles, import filters and connection files
- Collect and manage images (e.g., charts, photographs, tables, etc.) in a personal database (EndNote)

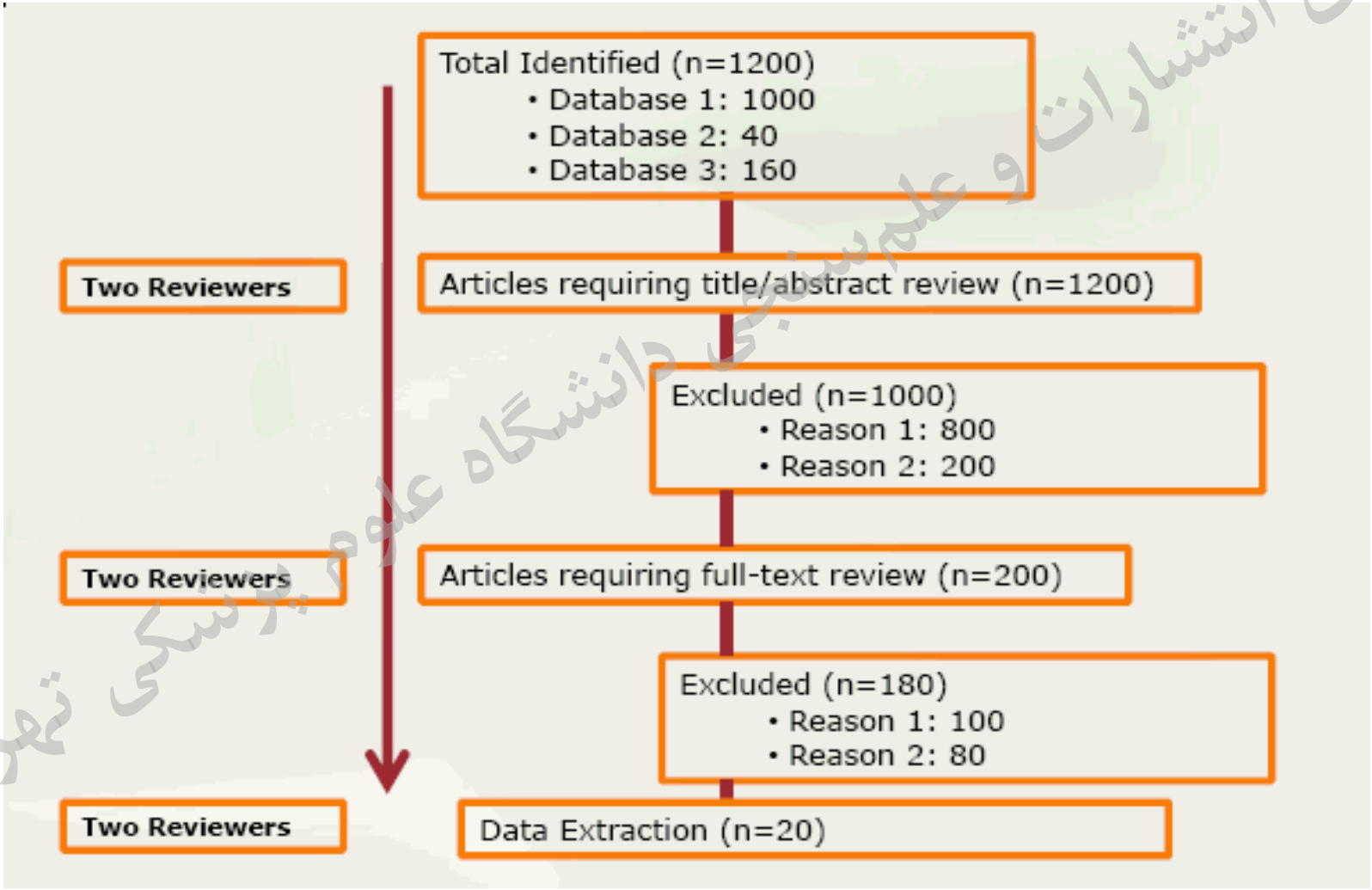
Identify Search Limits

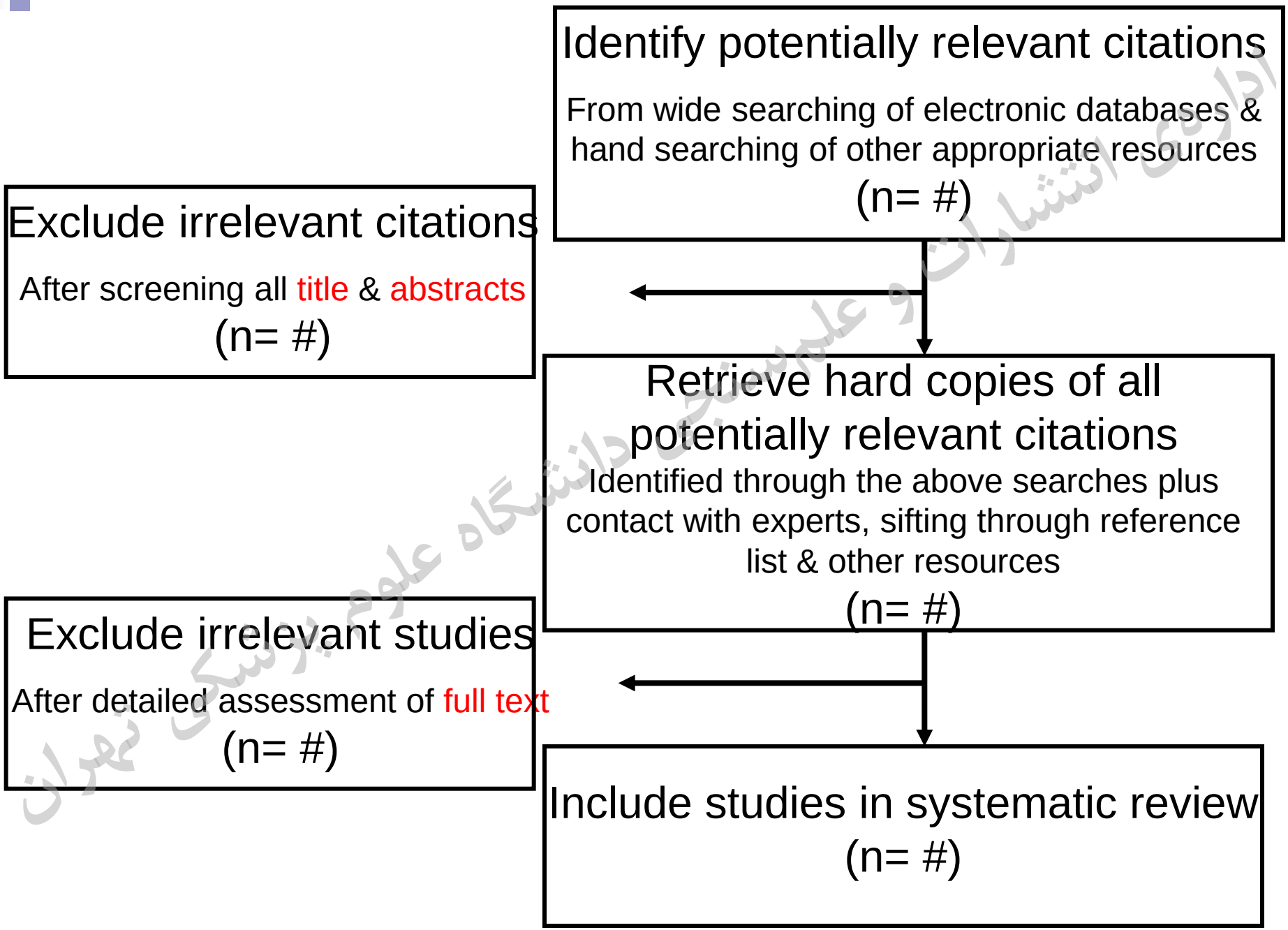
Criteria	Questions to Ask	Advise from the *Cochrane Handbook for Systematic Reviews of Interventions* (2008, p. 134)
Time Period	Will your review be restricted by year of publication, or is it important that you cover all years?	"Date restrictions should be applied only if it is known that relevant studies could only have been reported during a specific time period, for example if the intervention was only available after a certain time point."
Language	Should you restrict to English language publications only?	"Whenever possible review authors should attempt to identify and assess for eligibility all possibly relevant reports of trials irrespective of language of publication. No language restrictions should be included in the search strategy."
Publication Type	Are you restricting your search by publication type?	"Format restrictions such as excluding letters are not recommended because letters may contain important additional information relating to an earlier trial report or new information about a trial not reported elsewhere."
Geographic Considerations	Are there any geographic considerations to include in your search strategy?	For example, if you were researching Chinese herbal medicine you would need to consult Chinese literature.

Documenting Search Strategies

- DATABASE/VENDOR
  - Ovid Medline
- DATE
  - 2000 –2012; last searched February 29, 2012
- LANGUAGE
  - English
- Total
  - 222
- Strategy
  - Exact search strategy. Should be replicable

Search Flow-chart





Record Your Search History

- The systematic review process should be transparent and replicable. Document each search including:
  - Name of database
  - Date run in the database
  - Limits (if any)
  - Results
  - Actual search strategy

Documenting a search strategy

The search strategy should be described in sufficient detail in a review that the process could be replicated:

- Title of database searched (e.g. MEDLINE)
- Date search was run (month, day, year)
- Years covered by the search
- Complete search strategy used, including all search terms

Search strategy

- Should be described in enough detail so that another researcher could replicate the results, including:
  - Database(s) searched
  - Date the search was performed
  - Time-frame encompassed by the search
  - A list of search terms used
  - Languages

Transparent Reporting

- Databases used
- Dates covered
- Search terms
- Language restrictions
- Nondatabase methods used
- Inclusion/exclusion criteria
- Full electronic search strategy
- Publication-related restrictions
- End date of search
- List of excluded references
- Qualifications of searcher
- Number of references identified
- QUOROM - or PRISMA-style flow diagram accounting for all references
- Evidence of search effectiveness
- Statement of filters employed
- Description of sampling strategy

A Good Reference

- Cochrane Handbook for Systematic Reviews of Interventions

- Available at: http://handbook.cochrane.org/

اگر میل داشتید Email بزنید !

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