

Systematic Searching Systematic Reviews

Literature search

Tomas Allen

Training Course in Sexual and Reproductive Health Research
Geneva 2010



Normal Course Structure

- **5 Day course**

- Monday to Friday
- **Beginning at 09:00 and ending at 10:00**
- Attendance recommended for all five days
- Please sign the attendance sheet.
- You can bring your laptops with wireless. Arrive early to set up and test.
- **Homework assignments** - Block about 60 minutes for homework. Some resources are only accessible on the WHO network (intranet)



In-Depth Searching for Systematic Reviews

- **Where to Begin**
- **Which Resources to use**
- **How to Create a strategy**
- **How to be Comprehensive**
- **How to be Extensive**
- **Test the strategy**
- **Documenting the search**



What this course is not !

Systematic Review vs. Systematic Searching

- **Deciding on the Question**
- **Determination of the Quality of studies**
- **Analysis of selected studies**
- **Reporting of the results**
- **Publishing and dissemination of the results
(beyond documenting the search process)**



Cochrane Collaborating Groups.

- Conducts systematic reviews.
- Extensive resources (human and financial)
- In-depth searching
- Broad searching (language/global)

<http://www.cochrane.org>

The Cochrane Library

- The Cochrane Library contains high-quality, independent evidence to inform healthcare decision-making. It includes reliable evidence from Cochrane and other systematic reviews, clinical trials, and more. Cochrane reviews bring you the combined results of the world's best medical research studies, and are **recognized as the gold standard in evidence-based health care.**
- <http://www.thecochranelibrary.org>



<http://www.TheCochraneLibrary.com>

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The Cochrane Library

Evidence for healthcare decision-making



BROWSE

Cochrane Reviews: [By Topic](#) | [New Reviews](#) | [Updated Reviews](#) | [A-Z](#) | [By Review Group](#)

Other Resources: [Other Reviews](#) | [Clinical Trials](#) | [Methods Studies](#) | [Technology Assessments](#) | [Economic Evaluations](#)

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Welcome to The Cochrane Library

The Cochrane Library contains high-quality, independent evidence to inform healthcare decision-making. It includes reliable evidence from Cochrane and other systematic reviews, clinical trials, and more. Cochrane reviews bring you the combined results of the world's best medical research studies, and are recognised as the gold standard in evidence-based health care.

More About The Cochrane Library

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Help! New Users Start Here

As a new user we recommend you use the resources to help you navigate through the site and get the most out of The Cochrane Library.

For Clinicians

As a clinician you are under constant pressure to have high-quality, up-to-date evidence at your fingertips. [More](#)

For Researchers

The internet has given us instant access to a vast amount of research, but the large volume of information is a problem in itself. [More](#)

For Patients

Healthcare consumers and patients need high-quality evidence about the effectiveness of treatments. [More](#)

What's New in Issue 1, 2007?

104 new reviews, 46 updated reviews, 115 new protocols and 7 updated protocols, including:

[Interventions for improving older patients' involvement in primary care episodes](#)

[Family-centred care for children in hospital](#)

[School feeding for improving the physical and psychosocial health of disadvantaged elementary school children](#)

[Central action beta-blockers versus placebo for neuroleptic-induced acute akathisia](#)

[Beta-blockers for hypertension](#)

Access to The Cochrane Library

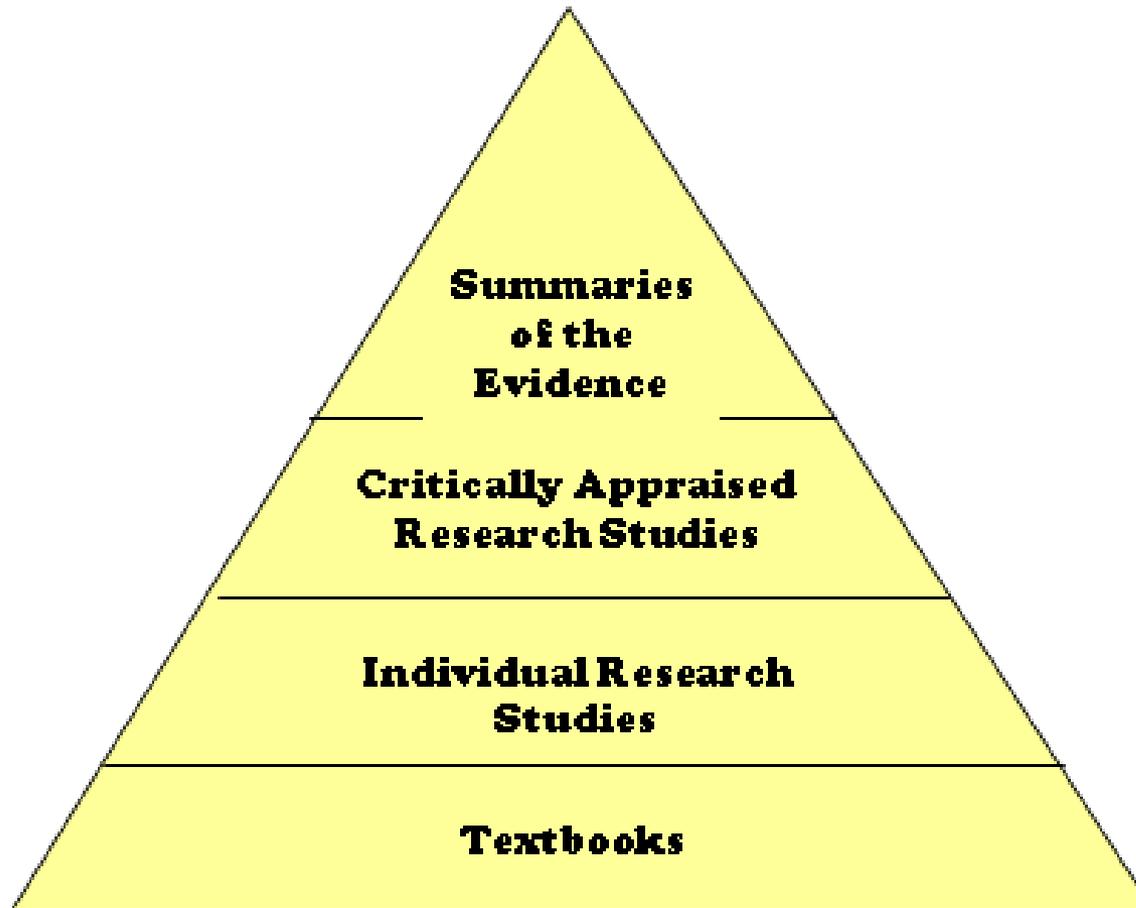
The Cochrane Library is available online through Wiley InterScience.

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Evidence-Based Child Health NOW AVAILABLE **Evidence-Based**



Level of Evidence



What are the levels of Evidence?

- **I–1** Systematic review of several double-blind randomised control trials.
- **I–2** One or more large double-blind randomised control trials.
- **II–1** One or more well-conducted cohort studies.
- **II–2** One or more well-conducted case-control studies.
- **II–3** A dramatic uncontrolled experiment.
- **III** Expert committee sitting in review; peer leader opinion.
- **IV** Personal experience.

Mainstream Literature



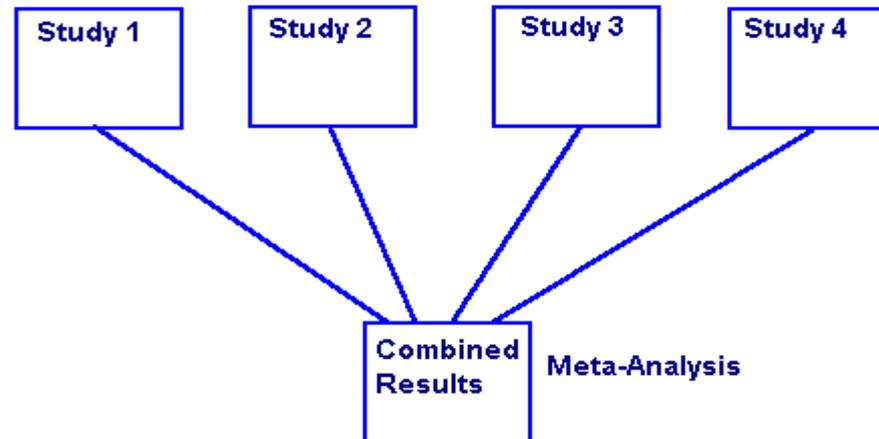
Non-English Literature



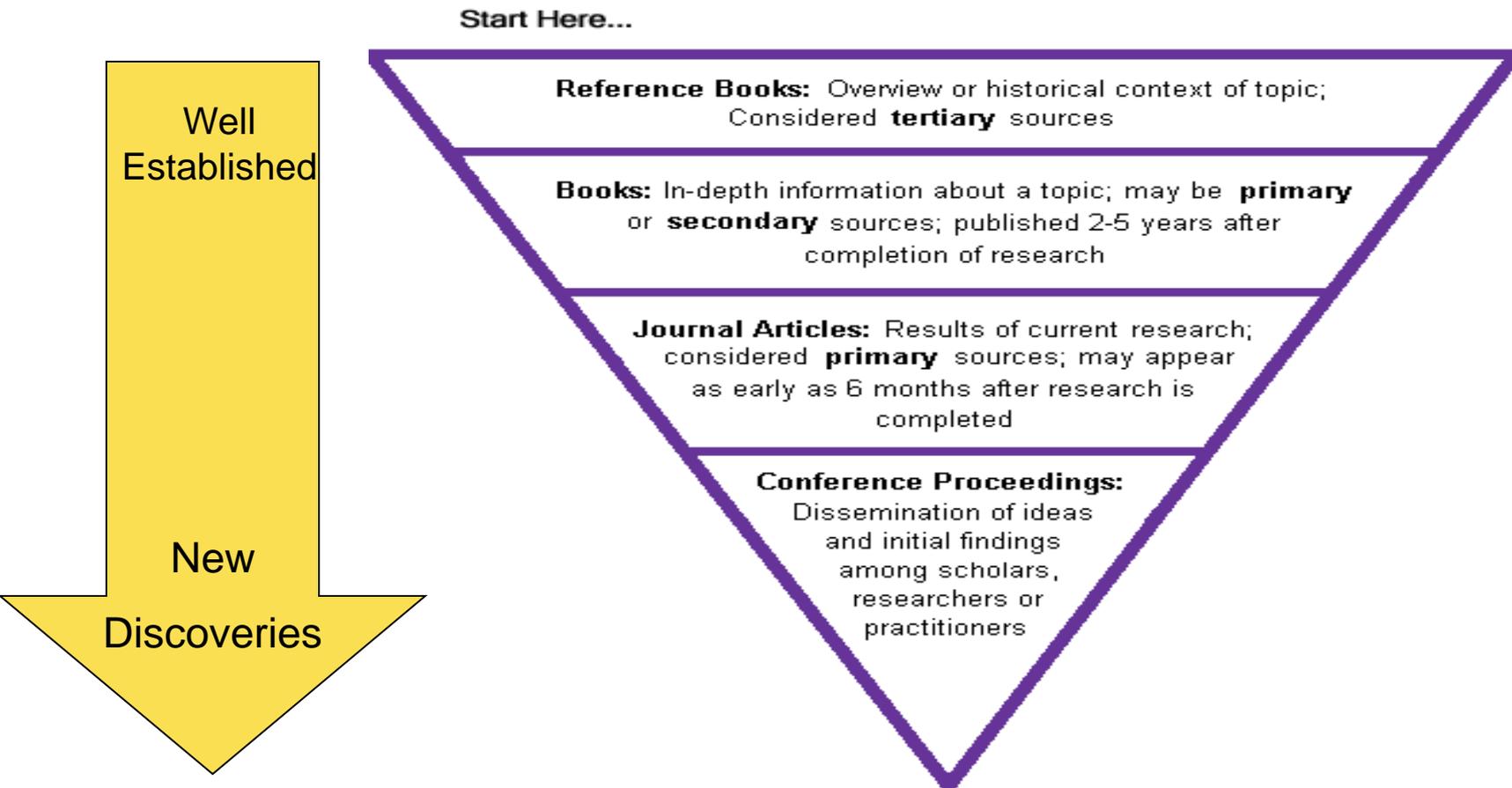
Commercial studies



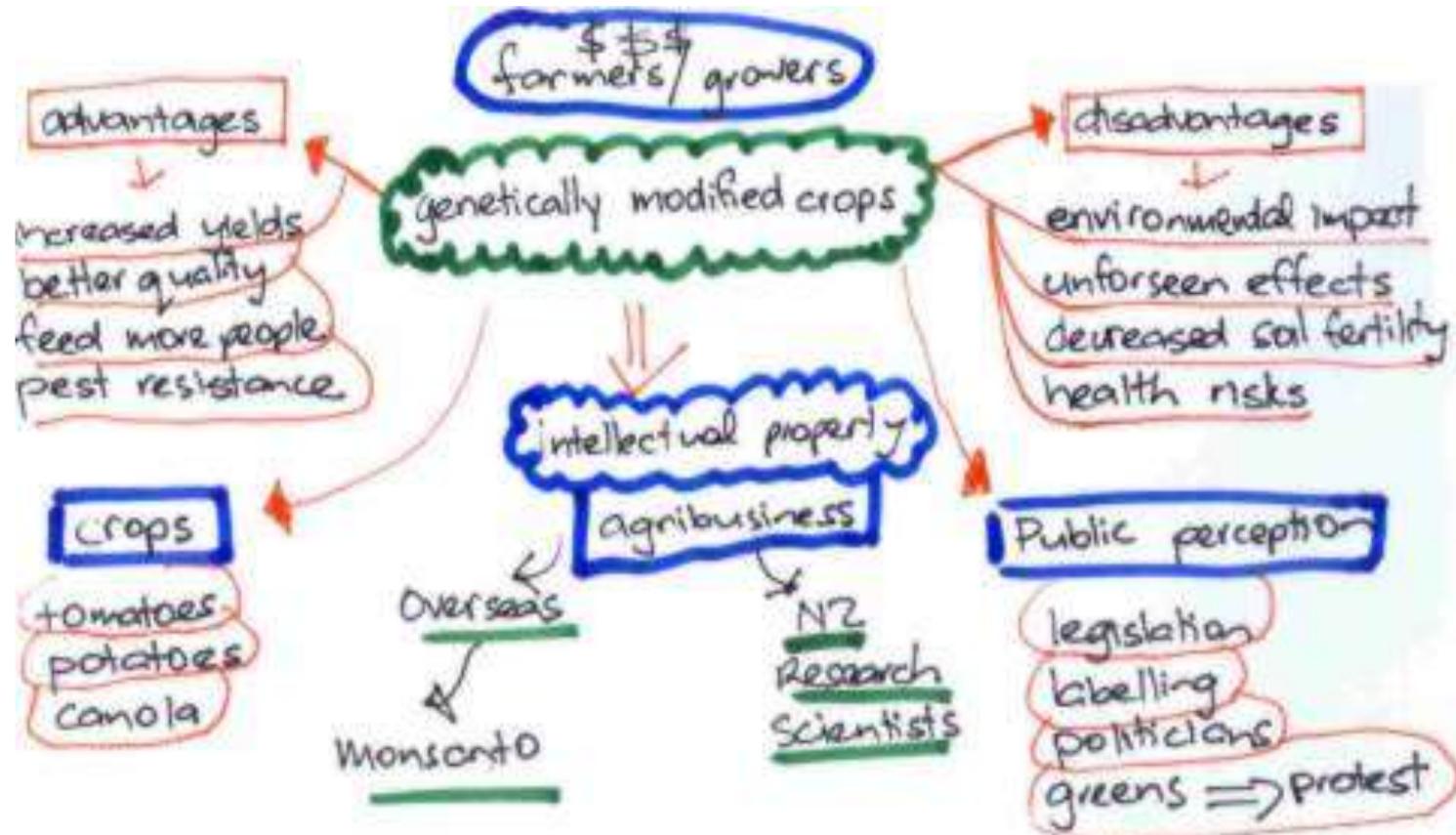
Grey Literature



Time Factor



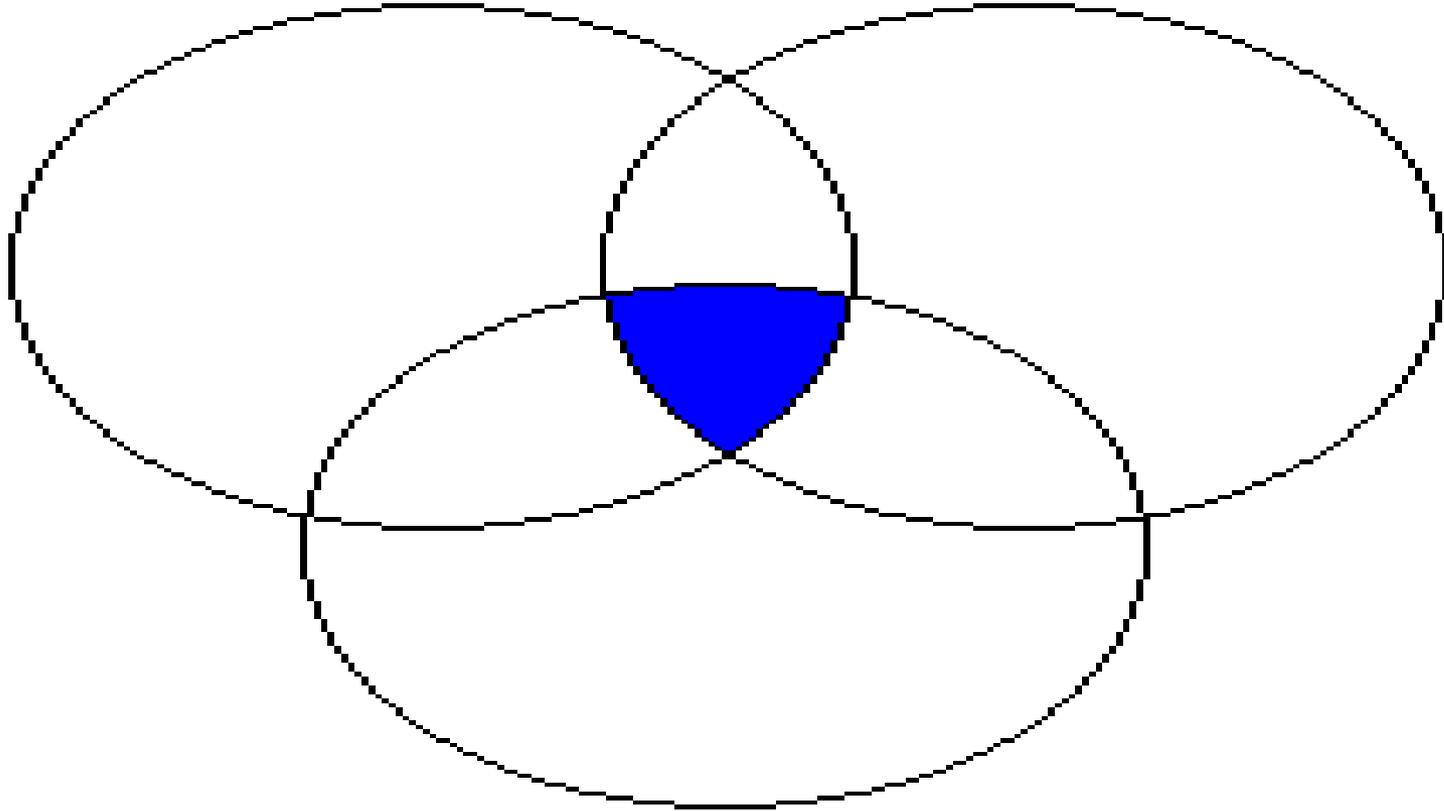
Clarity in the Question



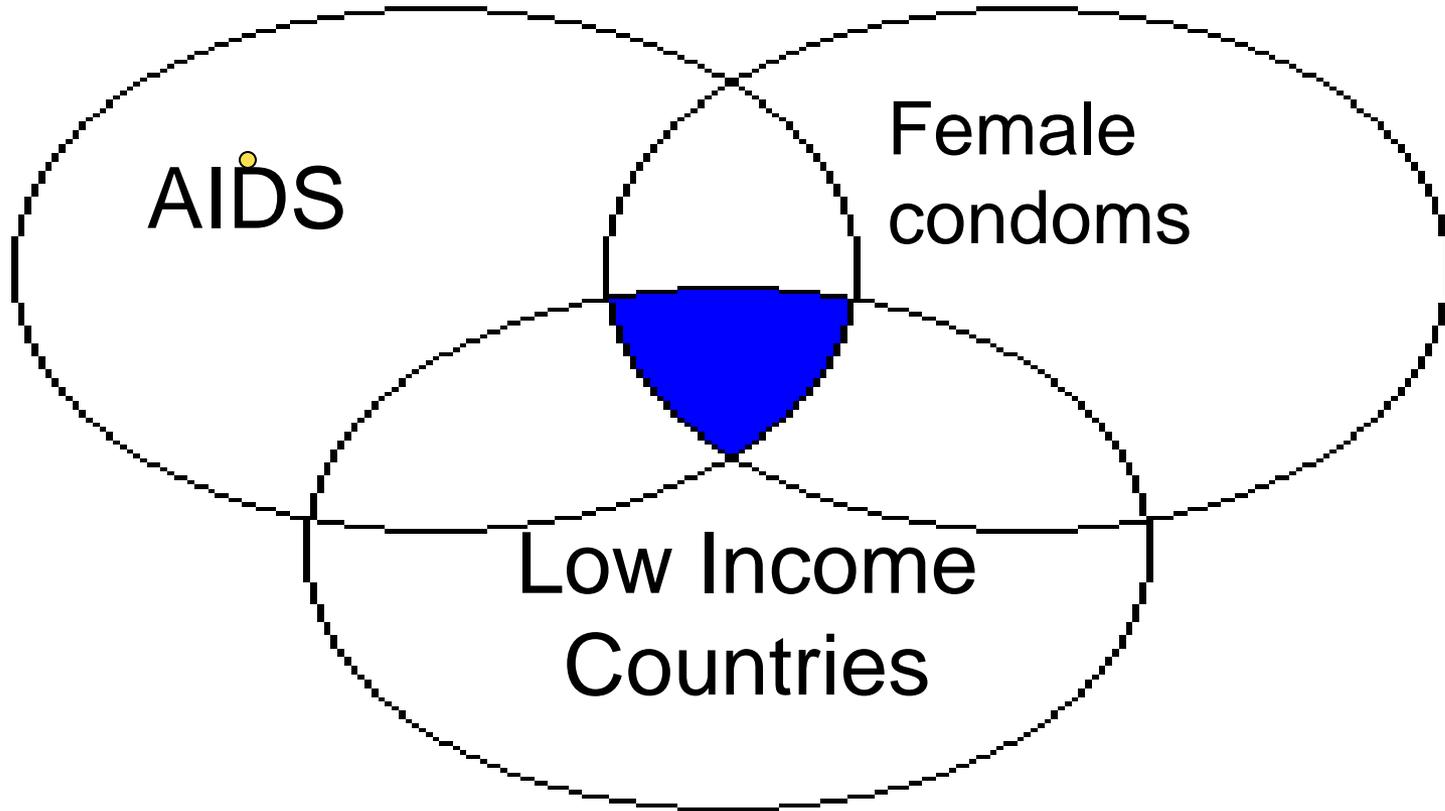
The Question must be Clear

- **The researcher must have the question clearly defined so that the researcher can explain this to the searcher**
- **The Searcher needs to translate the question into a systematic search method**
- **There is always a negotiation between the researcher and the searcher.**

Circle Concepts



Boolean



Cochrane Handbook for Systematic Reviews of Interventions

<http://www.cochrane.org/resources/handbook/>

www.cochrane.org >

The Cochrane Collaboration

The reliable source of evidence in health care

Latest: [WHO online survey: Reporting the findings of clinical tri](#)

Cochrane Handbook for Systematic Reviews of Interventions

The *Cochrane Handbook for Systematic Reviews of Interventions* is the official document that describes in detail the process of preparing and maintaining Cochrane systematic reviews on the effects of healthcare interventions. The current version of the Handbook is 5.0.0 (available in full in browseable format only). A Glossary is available to accompany the Handbook. The current version of the Glossary is 4.2.5.

A short summary of some of the main changes in Handbook version 5 is available as a PDF: [What's New?](#)

See Section 2 Chapter 6

Identifying Existing Systematic Reviews

- Databases that contain identified systematic reviews
 - Cochrane Library of Systematic Reviews
 - DARE (Database of Abstracts of Reviews of Effects)
 - TRIP database
- Bibliographic databases that contain many types of studies in which systematic reviews may or may NOT be identified as systematic reviews.
 - PubMed
 - EMBASE
 - Popline



First Step Check Cochrane Library

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The Cochrane Library

Evidence for healthcare decision-making

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SEARCH

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[Review]
Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection

[PDF](#) (Size 771 K)

- [Abstract](#)
- [Plain language summary](#)
- [Background](#)
- [Objectives](#)
- [Criteria for considering studies for this review](#)
- [Search methods for identification of studies](#)
- [Methods of the review](#)
- [Description of studies](#)
- [Methodological quality](#)

[Review]
Antiretrovirals for reducing the risk of mother-to-child transmission infection

J Volmink, NL Siegfried, L van der Merwe, P Brocklehurst

Cochrane Database of Systematic Reviews 2008 Issue 4 (Status: *Unchanged*)
Copyright © 2008 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.
DOI: 10.1002/14651858.CD003510.pub2 This version first published online: 24 January 2007 in Issue 1, 2007

This record should be cited as: Volmink J, Siegfried NL, van der Merwe L, Brocklehurst P. Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection. *Cochrane Database of Systematic Reviews* 2007, Issue 1. Art. No.: CD003510. DOI: 10.1002/14651858.CD003510.pub2.

Abstract

Background

Antiretroviral drugs (ARV) reduce viral replication and can reduce mother-to-child transmission of HIV either by reducing viral load in pregnant women or through post-exposure prophylaxis in their newborns. In rich countries, highly active antiretroviral therapy (HAART) has reduced the vertical transmission rates to around 1-2%, but HAART is not

Where to find systematic reviews

PubMed home - Windows Internet Explorer

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

Search: PubMed

Advanced search Help

Search Clear

U.S. National Library of Medicine
National Institutes of Health

Welcome to PubMed

PubMed comprises more than 19 million citations for biomedical articles from MEDLINE and life science journals. Citations may include links to full-text articles from PubMed Central or publisher web sites.

Using PubMed

- PubMed Quick Start
- New and Noteworthy
- PubMed Tutorials
- Full Text Articles
- PubMed FAQs

PubMed Tools

- Single Citation Matching
- Batch Citation Matching
- Clinical Queries
- Topic-Specific Queries

More Resources

- MeSH Database
- Journals Database
- Clinical Trials

Using PubMed Filter for identifying potential citations of Systematic Reviews

MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
Special Queries
LinkOut
My NCBI

Related Resources
Order Documents
NLM Mobile
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Privacy Policy

Search

Category	Scope
<input type="radio"/> etiology	<input checked="" type="radio"/> narrow, specific search
<input type="radio"/> diagnosis	<input type="radio"/> broad, sensitive search
<input checked="" type="radio"/> therapy	
<input type="radio"/> prognosis	
<input type="radio"/> clinical prediction guides	

Find Systematic Reviews

For your topic(s) of interest, this search finds citations for systematic reviews, meta-analyses, reviews of clinical trials, evidence-based medicine, consensus development conferences, and guidelines.

For more information, see [Help](#). See also [related sources](#) for systematic review searching.

Search

Medical Genetics Searches

This search finds citations and abstracts related to various topics in medical genetics. See the [filter table](#) for details.

Search

Category

Done



PubMed has facilitated using the filter

- In PubMed search box type in
- Your topic AND systematic [sb]
- Example
- "Condoms, Female"[Mesh] AND systematic [sb]



What is "systematic [sb]"

- (systematic review [ti] OR meta-analysis [pt] OR meta-analysis [ti] OR systematic literature review [ti] OR (systematic review [tiab] AND review [pt]) OR consensus development conference [pt] OR practice guideline [pt] OR cochrane database syst rev [ta] OR acp journal club [ta] OR health technol assess [ta] OR evid rep technol assess summ [ta]) OR ((evidence based[ti] OR evidence-based medicine [mh] OR best practice* [ti] OR evidence synthesis [tiab]) AND (review [pt] OR diseases category[mh] OR behavior and behavior mechanisms [mh] OR therapeutics [mh] OR evaluation studies[pt] OR validation studies[pt] OR guideline [pt])) OR ((systematic [tw] OR systematically [tw] OR critical [tiab] OR (study selection [tw]) OR (predetermined [tw] OR inclusion [tw] AND criteri* [tw]) OR exclusion criteri* [tw] OR main outcome measures [tw] OR standard of care [tw] OR standards of care [tw]) AND (survey [tiab] OR surveys [tiab] OR overview* [tw] OR review [tiab] OR reviews [tiab] OR search* [tw] OR handsearch [tw] OR analysis [tiab] OR critique [tiab] OR appraisal [tw] OR (reduction [tw]AND (risk [mh] OR risk [tw]) AND (death OR recurrence)))) AND (literature [tiab] OR articles [tiab] OR publications [tiab] OR publication [tiab] OR bibliography [tiab] OR bibliographies [tiab] OR published [tiab] OR unpublished [tw] OR citation [tw] OR citations [tw] OR database [tiab] OR internet [tiab] OR textbooks [tiab] OR references [tw] OR scales [tw] OR papers [tw] OR datasets [tw] OR trials [tiab] OR meta-analy* [tw] OR (clinical [tiab] AND studies [tiab]) OR treatment outcome [mh] OR treatment outcome [tw])) NOT (letter [pt] OR newspaper article [pt] OR comment [pt])



Don't find a Systematic Review on your question?

- But finding Systematic Reviews discussing at least one of your concepts is useful
- 1) To build search strategies
- 2) To identify where to search for studies



Determine Resources to Search



The Cochrane Library Evidence for healthcare decision-making

WILEY InterScience

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Other Resources: [Other Reviews](#) | [Clinical Trials](#) | [Methods Studies](#) | [Technology Assessments](#) | [Economic Evaluations](#) [? More Info](#)

SEARCH

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- Plain language summary
- Background
- Objectives
- Criteria for considering studies for this review
- Search methods for identification of studies
- Methods of the review
- Description of studies
- Methodological quality
- Results
- Discussion
- Authors' conclusions
- Potential conflict of interest
- Acknowledgements
- Characteristics of included studies

following electronic databases:

(1) Medline (1966 to date) via PubMed on 17 February 2004 and updated on 31 January 2005 and again on 9 February 2006 using the strategy documented in Table 01.

The searches conducted in 2005 and 2006 yielded 265 records in total of which we selected 29 for full article retrieval (search in 2004 yielded 276 records but no record was kept of the number of full articles retrieved for that search.)

(2) EMBASE (2000 to date) on 5 April 2004 and updated again on 31 January 2005 and 9 February 2006 using the PUBMED strategy modified for EMBASE documented in Table 02.

The searches conducted in 2005 and 2006 yielded 39 records in total of which we selected 15 for full article retrieval (search in 2004 yielded 116 records but no record was kept of the number of full articles retrieved.)

(3) AIDSearch (1995 to date) on 31 January 2005 and again on 9 February 2006. The database includes coverage of following conferences:

- International AIDS conference (1985-2004)
- Conference on Retroviruses and Opportunistic Infections (1986-2004)
- The British HIV Association conference (1997-2003)
- International Congress on Drug Therapy in HIV infection (1994-2002)



Cochrane Search Strategy

Table 01. Search strategy for MEDLINE

Number Search terms

- #1 HIV Infections[MeSH] OR HIV[MeSH] OR hiv[tw] OR hiv-1*[tw] OR hiv-2*[tw] OR hiv1[tw] OR hiv2[tw] OR hiv infect*[tw] OR human immunodeficiency virus[tw] OR human immunodeficiency virus[tw] OR human immuno-deficiency virus[tw] OR human immune-deficiency virus[tw] OR ((human immun*) AND (deficiency virus[tw])) OR acquired immunodeficiency syndrome[tw] OR acquired immunodeficiency syndrome[tw] OR acquired immuno-deficiency syndrome[tw] OR acquired immune-deficiency syndrome [tw] OR ((acquired immun*) AND (deficiency syndrome[tw]))
-
- #2 Antiretroviral Therapy, Highly Active[MeSH] OR Anti-Retroviral Agents[MeSH] OR Antiviral Agents[MeSH:NoExp] OR ((anti) AND (hiv[tw])) OR antiretroviral*[tw] OR ((anti) AND (retroviral*[tw])) OR HAART[tw] OR ((anti) AND (acquired immunodeficiency[tw])) OR ((anti) AND (acquired immunodeficiency[tw])) OR ((anti) AND (acquired immuno-deficiency[tw])) OR ((anti) AND (acquired immune-deficiency [tw])) OR ((anti) AND (acquired immun*) AND (deficiency[tw])) OR NEVIRAPINE OR
-

Female Condoms = 3 Systematic Reviews

Address  <http://www3.interscience.wiley.com/cochrane/mainSearch?mode=startsearch&products=all&unitstatus=none&opt1=OR&>

Search Results

Show Results in:

Cochrane Reviews [3] | [Other Reviews \[8\]](#) | [Clinical Trials \[375\]](#) | [Methods Studies \[4\]](#) | [Technology Assessments \[0\]](#) | [Economic Evaluations \[19\]](#)

There are 3 results out of **6162 records** for: "**female condoms** in **Title, Abstract or Keywords** in **Cochrane Database of Systematic Reviews**"

View: 1-3

[Export All Results](#)

Record Information

Issue: [Current](#) | **All** Restrict to: [Reviews](#) | [Protocols](#)



[Condom effectiveness in reducing heterosexual HIV transmission](#)

Susan C. Weller, Karen Davis-Beatty

January 2009

[Review](#)



[Female condom for preventing HIV and sexually transmitted infections](#)

Ruth Bame, Charles Shey U. Wiysonge, Eugene J Kongnyuy

July 2008

[Protocol](#)



[Theory-based interventions for contraception](#)

Laureen M Lopez, Elizabeth E. Tolley, David A Grimes, Mario Chen-Mok

January 2009

[Review](#)

[Select All](#) (to export citations)



PubMed with Systematic Filter

PubMed.gov
U.S. National Library of Medicine
National Institutes of Health

Search: PubMed

RSS Save search Limits Advanced se

"Condoms, Female"[Mesh] AND systematic [sb] **Search**

Display Settings: Summary, Sorted by Recently Added Send to:

Results: 3

- [Standardized definitions of failure modes for female condoms.](#)
1. Beksinska M, Joanis C, Manning J, Smit J, Callahan M, Deperthes B, Usher-Patel M.
Contraception. 2007 Apr;75(4):251-5. Epub 2007 Feb 7.
PMID: 17362701 [PubMed - indexed for MEDLINE]
[Related citations](#)
- [A review of female-condom effectiveness: patterns of use and impact on protected sex acts and STI incidence.](#)
2. Vijayakumar G, Mabude Z, Smit J, Beksinska M, Lurie M.
Int J STD AIDS. 2006 Oct;17(10):652-9. Review.
PMID: 17059633 [PubMed - indexed for MEDLINE]
[Related citations](#)
- [Effectiveness of female controlled barrier methods in preventing sexually transmitted infections and HIV: current evidence and future research directions.](#)
3. Minnis AM, Padian NS.
Sex Transm Infect. 2005 Jun;81(3):193-200. Review.
PMID: 15923284 [PubMed - indexed for MEDLINE] **Free PMC Article** [Free text](#)
[Related citations](#)



Methods Section

METHODS

Selection of studies for review

We identified studies for review through the National Library of Medicine's Medline database accessed through PubMed, and through POPLINE, an online database of published and unpublished references maintained by the Population Information Program at the Johns Hopkins School of Public Health. We searched the National Library of Medicine's AIDSLINE database for conference abstracts and the reference lists in articles selected for review. We conducted searches using the following search terms, individually and in combination: HIV; sexually transmitted diseases; contraceptive devices, female; disease prevention; female controlled methods; female condom; cervical cap; diaphragm; microbicides; topical microbicide; efficacy; and effectiveness. We reviewed all articles published in peer reviewed journals that examined the disease prevention effectiveness of at least one female controlled barrier method, regardless of the design and study population. In addition, we examined review papers on this topic and relevant conference abstracts. To supplement the microbicide assessment, we reviewed materials included on the Alliance for Microbicide Development website and the abstracts and presentations from the Microbicides 2002 and 2004 conferences.

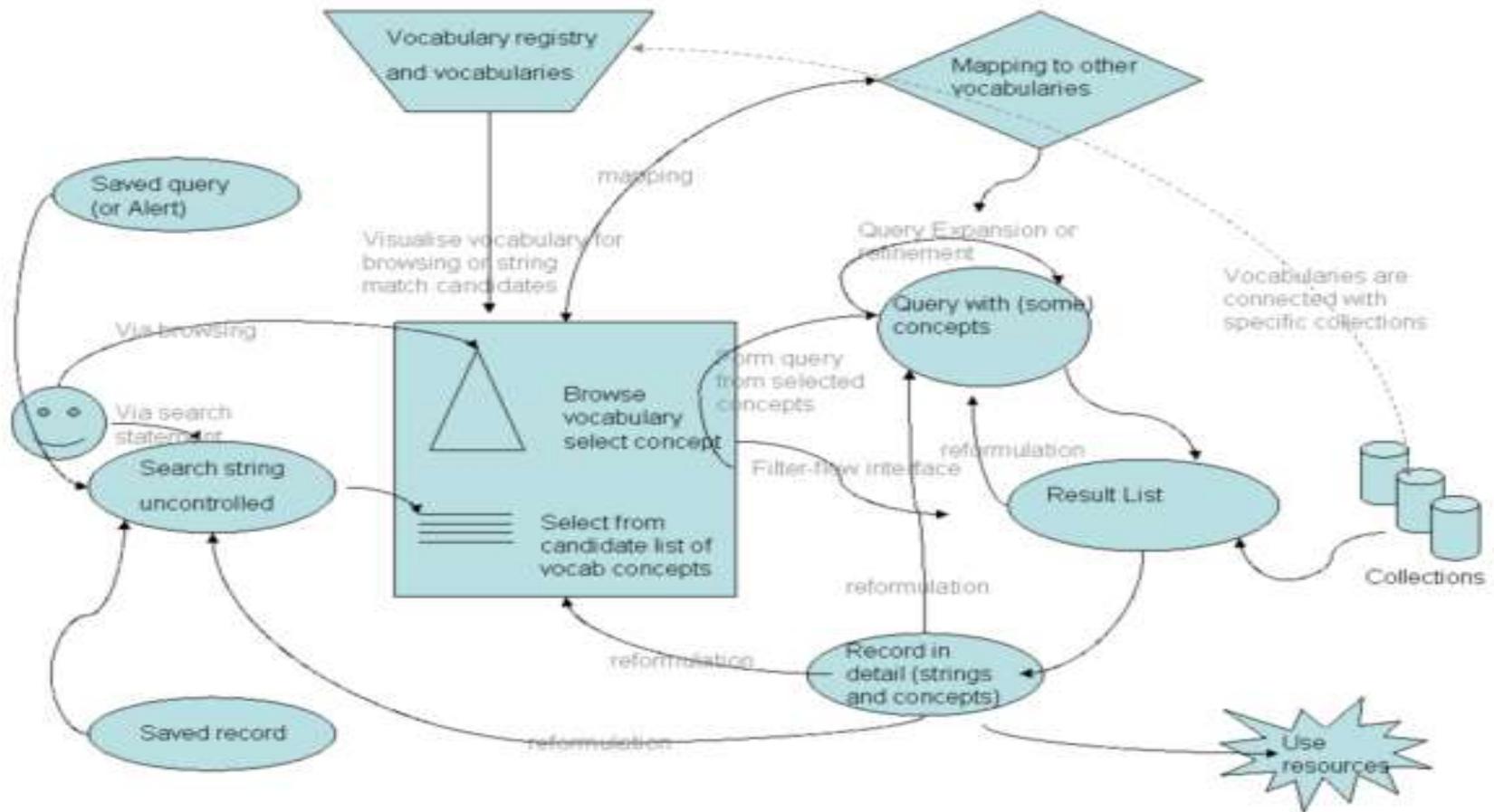


Where does one begin?

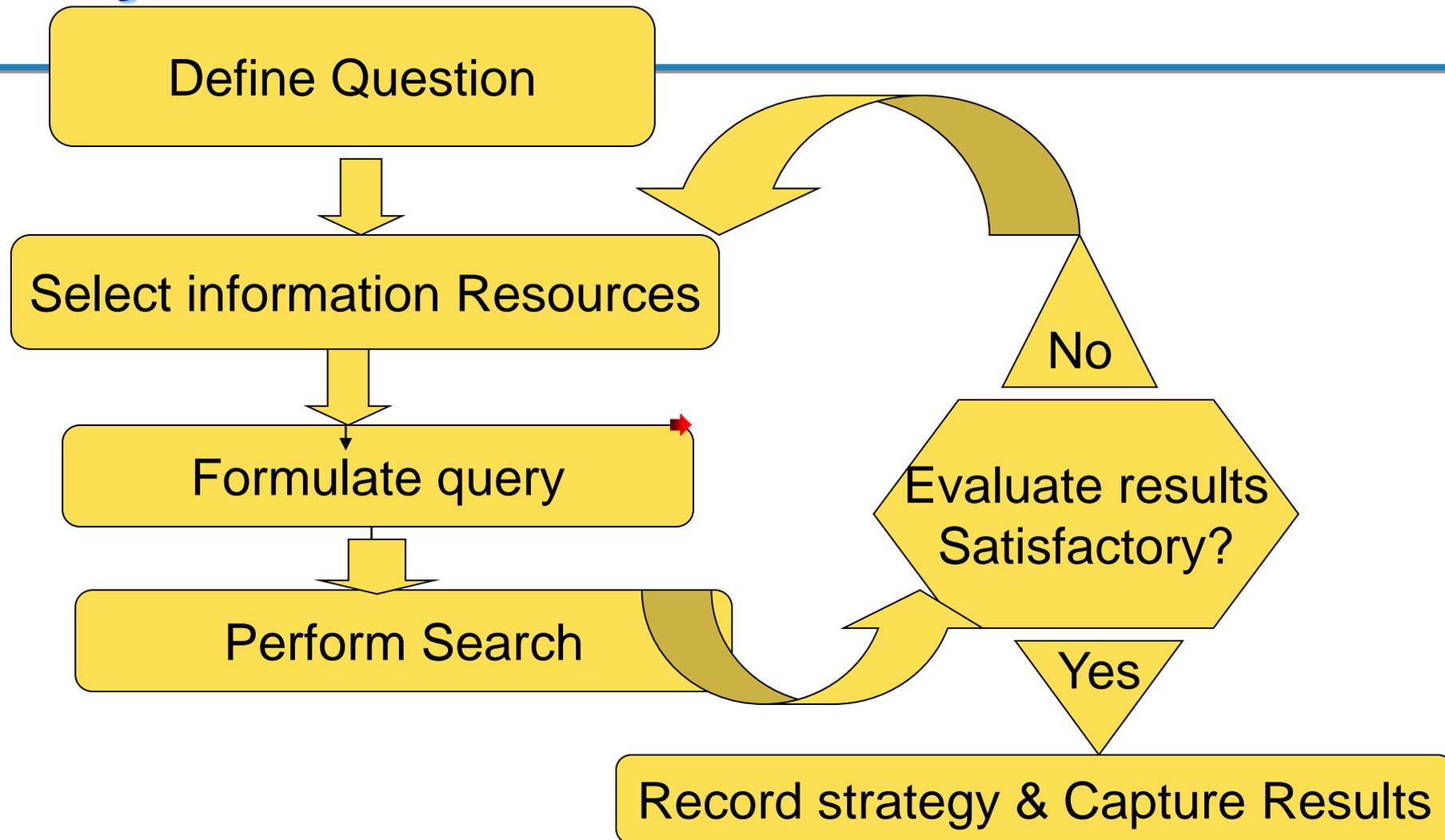
- **Determine which information resources would best respond to the information you are seeking.**
- **What is well established about your research?**
- **What is new and breakthrough about your research?**
- **Different resources for different types of questions**



How the Beginner sees the Search Process



Systematic Searcher Point of View



Major steps to identifying research

1. Electronic databases
2. Print indexes
3. Hand searching
4. Checking reference lists
5. Identifying unpublished studies
6. Personal communication



Systematic Searching

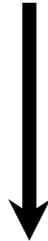
Library Expertise

- Facilitates access to fee charging databases
- Individual search strategies for each database and each interface
- Multilingual searching
- Determine the most effective search strategy
- Expertise in obtaining "grey literature & obscure documents
- Time efficiency due to searching on a regular basis
- Understanding "glitches" in database searching
- Manipulation of data for import/export in bibliographic management software
- Overlap and duplication of references.



Fishing Trip - How to find studies?

- Very quick search on one electronic database (PubMed) and find a couple of relevant articles.



- Try to find every study that's ever been done addressing your review's question.

Spear fishing Technique

- Searching for the easy ones
- 1) Key word searching in PubMed using the most relevant keywords
- 2 Using references from a review article on the subject.
- 3) Subject expert provides a list of references.

Spear Fishing Searching

Problems:

— Few studies:

- *Publication bias*: studies with dramatic results are much easier to find
- Less information
- Limited precision
- Restricted conclusion

Trawling the Sea – Finding Every Possible Study

● Problems:

– Finding every study

- Not easy and might not be possible
- Many studies are never published
- Published , but not indexed
- Too much effort is needed

Search should be :

- Be sensitive
 - look in a number of different places - not single
- Minimize bias
 - Think about finding studies that aren't in the major sources like PubMed/MEDLINE.
- Be efficient
 - start looking in the place you expect to have the highest yield.

Where to search?

- **Studies have shown that only 30 - 80% of all known published RCTs were identifiable using MEDLINE (depending on the area or specific question)...[Dickersin 1994](#)**
- **According to Ulrich's Periodical Directory, there are over 20,000 active health / medical journals.**
- **So MEDLINE, is generally not considered adequate for a systematic review.**



PubMed/ Medline

<http://pubmed.gov>

- By US National Library of Medicine
- **Type of Database:** Bibliographic
- Over 18,000,000 citations of both clinical and preclinical studies.
- complementary database known as **PreMEDLINE** includes citations and abstracts for studies that have been published recently but not yet indexed.
- **Subject Coverage:** All Specialties of Medicine
- 60% of References contain Abstracts

EMBASE (Classic)

- Type of Database: Bibliographic
- Numbers of Journals: 3500
- Bias: European in focus
- Thesaurus: Uses own thesaurus
- Subject Coverage: Strong on Pharmaceutical and Clinical Medicine
- Materials Indexed: Letters, Editorials, Research Articles from 1974 or 1981 onwards (depending on method of access)
- Overlap with MEDLINE estimated at between 25 and 40%. The **EMBASE version at <http://www.embase.com> contains all citations from MEDLINE and EMBASE (classic) combined.**
- 75% of References contain Abstracts

Other databases

- Besides Medline and EMBASE
- Some other bibliographic and full text databases that are available
- Needs a librarian or those familiar with the searches needed for systematic reviews

Home
About WHO
Countries
Health topics
Publications
Research tools
WHO sites
Library and Information Networks for Knowledge
Access and services
Collections
Databases

Databases

WHOLIS

WHOLIS is the World Health Organization library database available on the web. WHOLIS indexes all WHO publications from 1948 onwards and articles from WHO-produced journals and technical documents from 1985 to the present. An on-site card catalogue provides access to the pre-1986 technical documents. It contains bibliographic information with subject headings and, for some records, abstracts. For some records, full text links are available. An online tutorial **1** and guidance in using WHOLIS is available.

- :: [Access WHOLIS](#)
- :: [WHOLIS online tutorial](#)
- :: [More instruction information](#)

WHO Regional Databases

Regional health and medical database **3** is compiled to complement the internationally known **2** technical indexes such as MEDLINE from the [US National Library of Medicine](#). Although most of the significant medical periodicals published in developed countries are indexed in the MEDLINE database and similar tools, there is still a considerable amount of important and valuable medical and health documentation from countries outside the major industrialized areas which is not included. This material therefore receives less global visibility inspite of its often higher relevance for other developing countries.

The Regional medical indexes, published by or under the auspices of WHO Regional Offices give access to bibliographical information about the health material published locally. They thus add a further dimension to the retrieval of information from developed country-oriented databases.

- :: [Africa](#)
- :: [Eastern Mediterranean](#)
- :: [Latin America and Caribbean](#)
- :: [South-East Asia](#)



Developing Country Health Databases

<http://www.who.int/library/databases/en/>

!)

- **Africa**

<http://indexmedicus.afro.who.int/>

- **Latin America and the Caribbean**

<http://bases.bvs.br/>

- **South-East Asia**

<http://www.hellis.org>

- **Eastern Mediterranean**

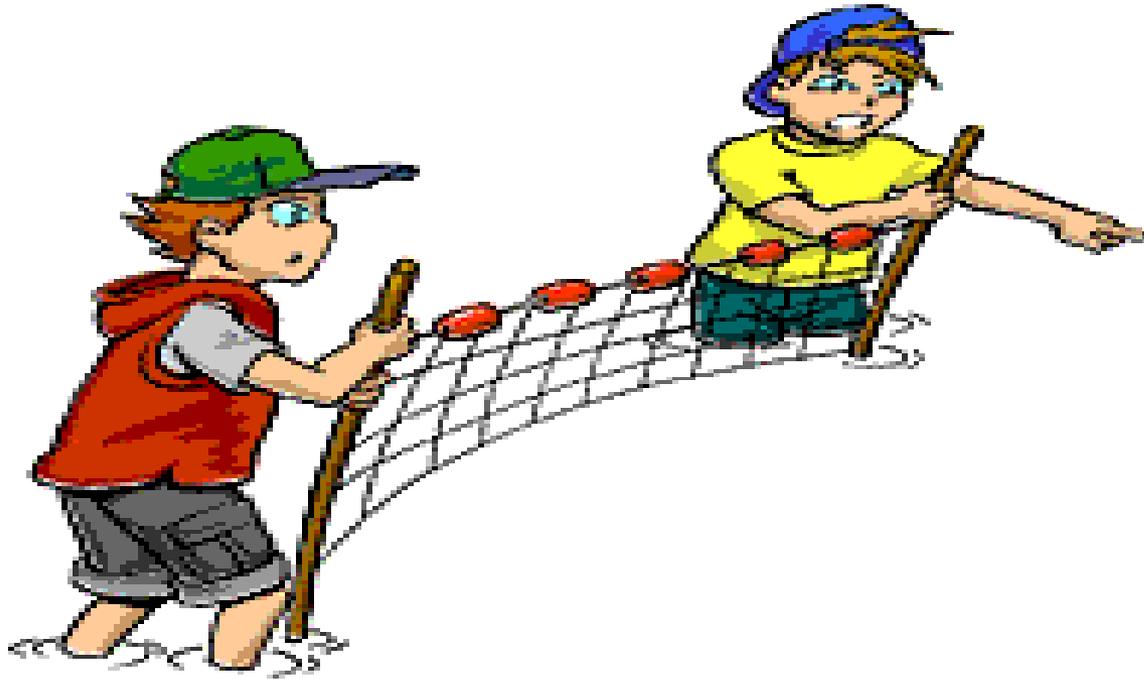
<http://www.emro.who.int/HIS/VHSL/>

- **Western Pacific**

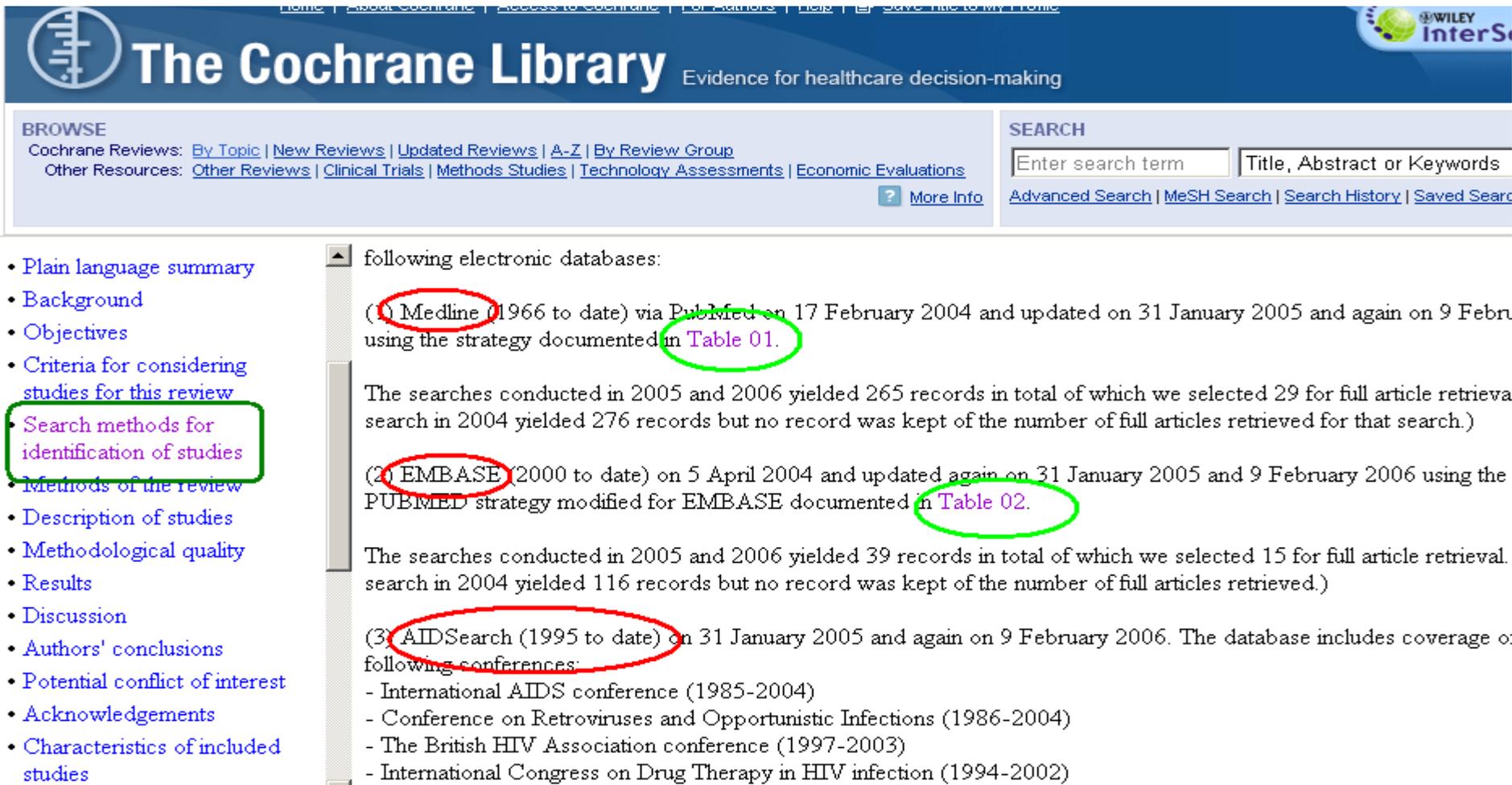
<http://wprim.whooc.org.cn/index.jsp>



Creating a search strategy with a librarian



Use Cochrane for Search Methodology



The screenshot shows the Cochrane Library website interface. At the top, there is a navigation bar with links for Home, About Cochrane, Access to Cochrane, For Authors, Help, and Save this to my Profile. The main header features the Cochrane Library logo and the tagline "Evidence for healthcare decision-making". Below the header, there are two main sections: "BROWSE" and "SEARCH".

The "BROWSE" section includes links for Cochrane Reviews (By Topic, New Reviews, Updated Reviews, A-Z, By Review Group) and Other Resources (Other Reviews, Clinical Trials, Methods Studies, Technology Assessments, Economic Evaluations). A "More Info" link is also present.

The "SEARCH" section has a search input field with the placeholder "Enter search term" and a dropdown menu for "Title, Abstract or Keywords". Below the search field are links for "Advanced Search", "MeSH Search", "Search History", and "Saved Searches".

On the left side of the page, there is a vertical navigation menu with the following items:

- Plain language summary
- Background
- Objectives
- Criteria for considering studies for this review
- Search methods for identification of studies
- Methods of the review
- Description of studies
- Methodological quality
- Results
- Discussion
- Authors' conclusions
- Potential conflict of interest
- Acknowledgements
- Characteristics of included studies

The main content area displays the following text:

following electronic databases:

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- Conference on Retroviruses and Opportunistic Infections (1986-2004)
- The British HIV Association conference (1997-2003)
- International Congress on Drug Therapy in HIV infection (1994-2002)

Search Strategy

- Before launching into complex searching, do a few test runs or a little fishing trip.
- This will help you to identify databases and also key terms.



Developing a search strategy

- Balance between **comprehensiveness** and **precision** when developing a search strategy is necessary.
- Increasing the comprehensiveness of a search entails reducing its precision and retrieving more non-relevant articles

Finding Pregnancy related terms

1: [WMJ](#). 2004;103(5):61-6.

Pregnancy-associated deaths and pregnancy-related deaths in Wisconsin, 1998-2001.

[Mascola MA](#), [Schellpfeffer MA](#), [Kruse TK](#), [Conway AE](#), [Kvale KM](#), [Katcher ML](#).

Bureau of Community Health Promotion, Division of Public Health, Department of Health and Family Service, Madison, WI 53701-2659, USA.

BACKGROUND: Although the risk of dying during **childbirth** or from complications afterward has been greatly reduced during the past 100 years, the current rate of approximately 1 death in 10,000 **live births** is still too high. The goal of the US Department of Health and Human Services is to reduce this rate by more than half by the year 2010. OBJECTIVE: To present Wisconsin data regarding **pregnancy-associated deaths** and **pregnancy-related deaths**. METHODS: Cases in which a woman had died during pregnancy or within 1 year of the end of her pregnancy were identified, and case-specific data were collected. The Wisconsin **Maternal Mortality** Review Team then conducted systematic reviews of the information, summarized issues related to maternal mortality, considered the relationship to pregnancy and factors of avoidability, and made recommendations to improve **maternal health** and survival. Finally, pregnancy-associated and pregnancy-related mortality ratios were calculated. RESULTS: From 1998 through 2001, 23 Wisconsin women died as a result of their pregnancy or from complications up to a year later. This gives a Wisconsin pregnancy-related mortality ratio of 8.4 per 100,000 live births. This ratio was higher in African American women and in women who smoked. The primary cause of death was embolic disease. Almost half of the pregnancy-related deaths (48%) occurred during the **postpartum period** and nearly one-quarter (22%) were avoidable. CONCLUSIONS: The disparity in pregnancy-related mortality ratios among ethnic groups and the finding of avoidable deaths are areas that should be targeted by health care providers and public health workers. Six areas on which to focus include the following: addressing racial disparities, assuring the performance of autopsies, lifestyle changes related to obesity and smoking, and management of embolic and cardiovascular disease, as well as **postpartum hemorrhage**.

Finding all the terms to describe your search

1: [Int J Behav Nutr Phys Act](#). 2006 Nov 26;3:42.

Specific food intake, fat and fiber intake, and behavioral correlates of BMI among overweight and obese members of a managed care organization.

[Linde JA](#), [Utter J](#), [Jeffery RW](#), [Sherwood NE](#), [Pronk NP](#), [Boyle RG](#).

Division of Epidemiology and Community Health, School of Public Health, University of Minnesota, Minneapolis, MN, USA. linde@epi.umn.edu.

ABSTRACT: BACKGROUND: The study examined correlates of body mass index (BMI) in overweight and obese members of a managed care organization seeking treatment for obesity. It assessed intake of specific foods, dietary fat or fiber, and behaviors attempted to control weight. METHODS: Participants were 508 men and 1293 women who were > 18 years and had a self-reported BMI > 27.0. This paper reports analyses of baseline and 24-month follow-up data from a randomized weight-loss trial. Cross-sectional and prospective relationships between BMI and behaviors were examined with regression analyses controlling for age and education. RESULTS: At baseline, hamburger and beef consumption were associated with higher BMI for men; for women, hamburger, fried chicken, hot dog, bacon or sausage, egg, French fry, and overall fat consumption were associated with higher BMI, while eating high fiber cereal, fruit, and overall fiber intake were associated with lower BMI. Virtually all forms of weight control behavior were reported more often in heavier people. Subscribing to exercise magazines, however, was associated with lower BMI. Decreased fat intake and increased fruit/vegetable/fiber intake over the course of the study were associated with reductions in BMI at 24 months. CONCLUSION: The same behaviors that differentiate individuals with different body weight in the general population also differentiate between individuals of different body weights at the high end of the weight distribution. Educational efforts aimed at preventing weight gain and reducing obesity might benefit from focusing on specific foods known to be associated empirically with body weight and weight change over time.

PMID: 17125525 [PubMed - in process]

Using only Title Selection



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All: 1 Review: 0

1: [Science](#). 2009 Jan 16;323(5912):337-8.



Comment on:

[Science](#). 2008 Sep 19;321(5896):1678-81.

Fishing for more effective incentives.

[Smith T](#), [Gibbs M](#), [Smith D](#).

PMID: 19150827 [PubMed - indexed for MEDLINE]

Related Articles

- ▶ Can catch shares prevent fisheries collapse? [Science. 20]
- ▶ Diverse fisheries require diverse solutions. [Science. 20]
- ▶ Ecology. Privatization prevents collapse of fish stocks, global analysis shows. [Science. 20]
- ▶ **Review** Current problems in the management of marine fisheries. [Science. 20]



1: [Science](#). 2009 Jan 16;323(5912):337-8.



Fishing for more effective incentives.

[Smith T](#), [Gibbs M](#), [Smith D](#).

MeSH Terms:

- [Animals](#)
- [Ecosystem](#)
- [Fisheries*/economics](#)
- [Fisheries*/methods](#)
- [Fishes*](#)
- [Humans](#)
- [Motivation*](#)

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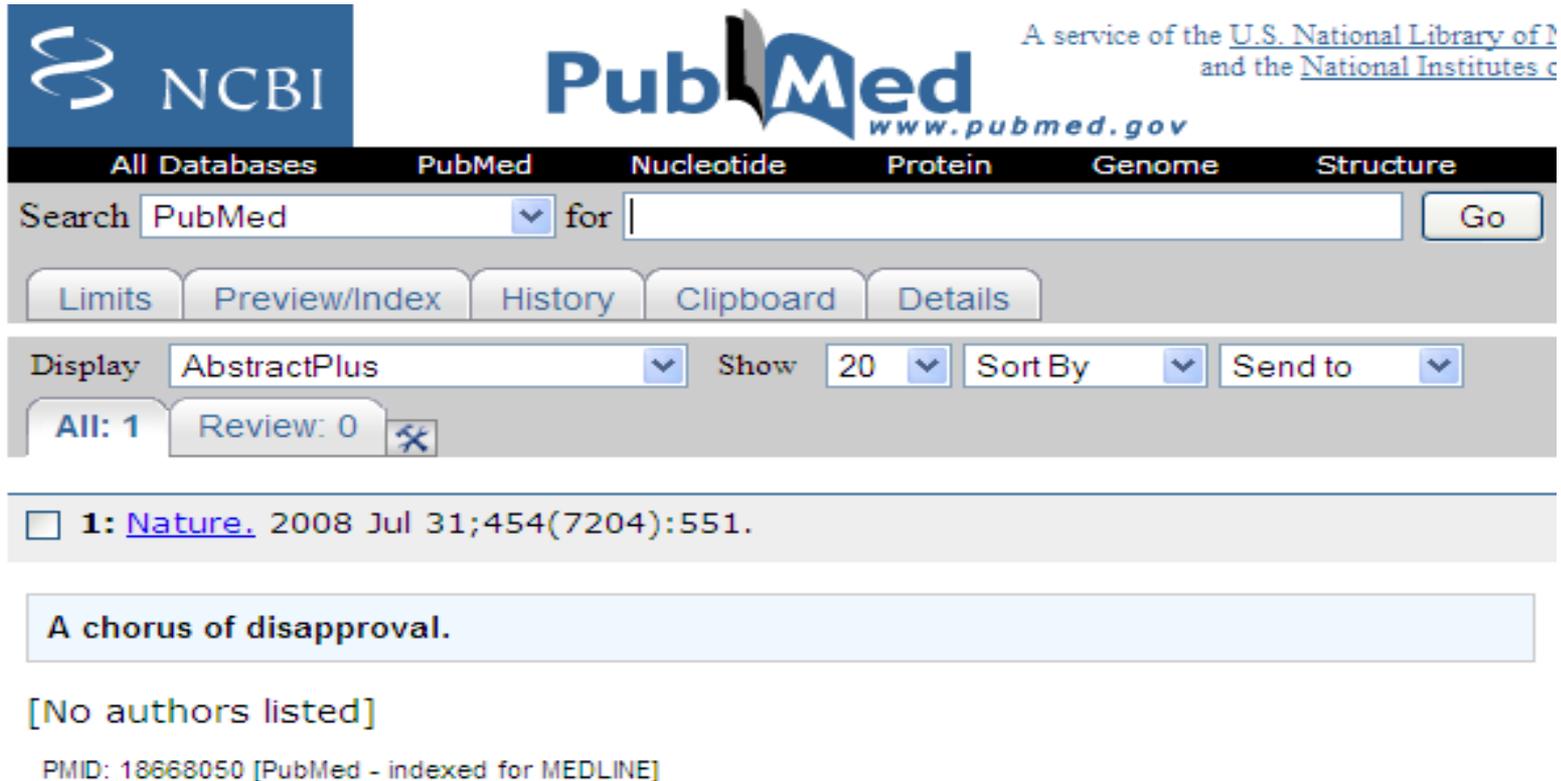
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Matcher
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No Abstract! What is this article about?



The screenshot displays the NCBI PubMed search interface. At the top left is the NCBI logo. To its right is the PubMed logo with the URL www.pubmed.gov and the text "A service of the U.S. National Library of Medicine and the National Institutes of Health". Below the logos is a navigation bar with tabs for "All Databases", "PubMed", "Nucleotide", "Protein", "Genome", and "Structure". The "PubMed" tab is selected. The search bar contains "PubMed" in the dropdown and "for" followed by an empty input field. A "Go" button is to the right. Below the search bar are buttons for "Limits", "Preview/Index", "History", "Clipboard", and "Details". The "Display" section shows "AbstractPlus" in the dropdown, "Show 20" with a dropdown, "Sort By" with a dropdown, and "Send to" with a dropdown. Below this are buttons for "All: 1" and "Review: 0" with a trash icon. The search results section shows a single result: **1:** [Nature](#). 2008 Jul 31;454(7204):551. Below the result is a light blue box containing the text "A chorus of disapproval." followed by "[No authors listed]" and "PMID: 18668050 [PubMed - indexed for MEDLINE]".

How to maximize your selection

The screenshot shows the PubMed website interface. At the top, there is the NCBI logo and the text "A service of the National Library of Medicine and the National Institutes of Health". Below this, there are navigation tabs for "All Databases", "PubMed", "Nucleotide", "Protein", "Genome", "Structure", "OMIM", "PMC", and "Journals". A search bar is present with "PubMed" selected in the dropdown and "Go" and "Clear" buttons. Below the search bar are buttons for "Limits", "Preview/Index", "History", "Clipboard", and "Details".

The "Display" section shows a dropdown menu with "Citation" selected. A red box highlights this dropdown menu. To the right, a red box contains the text "Citation = MeSH are visible".

The "All:" section shows a list of options: "MEDLINE", "XML", "UI List", "LinkOut", "ASN.1", "Related Articles", "Cited Articles", "Cited in Books", "CancerChrom Links", and "Domain Links".

The "MeSH Terms:" section lists several terms, with some highlighted in yellow boxes: "AIDS Vaccines/economics", "Acquired Immunodeficiency Syndrome/drug therapy", "Acquired Immunodeficiency Syndrome/economics*", "Acquired Immunodeficiency Syndrome/epidemiology", "Acquired Immunodeficiency Syndrome/prevention & control*", "Anti-HIV Agents/economics*", "Anti-HIV Agents/suicidal & distribution", "Anti-HIV Agents/therapeutic use*", "Developing Countries/economics", "Humans", "United Nations", and "World Health*". A red box highlights the terms "Acquired Immunodeficiency Syndrome/economics*", "Acquired Immunodeficiency Syndrome/prevention & control*", "Anti-HIV Agents/economics*", and "Anti-HIV Agents/therapeutic use*", with a red arrow pointing to a red box containing the text "* = Major Focus or Main Idea".

The "PMID: 16526111 [PubMed - index from MEDLINE]" is visible at the bottom left.

Where words have double meanings

- 1: [Eat Behav.](#) 2007 Jan;8(1):73-82. Epub 2006 Feb 21.

The method of **delivery** of nutrition and physical activity information may play a role in eliciting behavior changes in adolescents.

[Casazza K](#), [Ciccazzo M](#).

Florida International University, College of Health and Urban Affairs, Department of Dietetics and Nutrition, HLS 450, University Park, Miami, Florida 33199, USA. krista1313@msn.com

OBJECTIVES: Motivating adolescents to adopt proper nutrition and physical activity behaviors is important in this nation's fight to prevent obesity and chronic diseases. This study was conducted to determine which health education **delivery** method would elicit a greater behavior change. METHOD: The intervention was conducted in three schools (control, computer-based, and traditional education). RESULTS: Students who received the computer-based intervention showed increased knowledge ($p < 0.001$), physical activity ($p = 0.001$), self-efficacy ($p < 0.001$), and social support ($p < 0.001$), and decreased meals skipped ($p < 0.001$). CONCLUSION: The computer-based group showed more positive behavior changes. However, future programs may be enhanced by including group discussion and individual feedback.

Text word searching problem

You search on "developing countries."
and find the following article. Looks
interesting?

**Community hospitals--the place of local service
provision in a modernising NHS: an integrative
thematic literature review.**

Reading the article abstract you find:

"We included papers of any study design focussing
on hospitals in which care was led principally by
general practitioners or nurses. **Papers from
developing countries were excluded.** ."



PubMed/MeSH Tutorials

<http://www.nlm.nih.gov/bsd/disted/pubmed.html>

PubMed's MeSH Database **Quick Tour**

- [Searching with the MeSH Database](#) (3 min., October 2009)
- [Combining MeSH Terms Using the MeSH Database](#) (4 min., October 2009)
- [Applying Subheadings and Other Features of the MeSH Database](#) (5 min., October 2009)

Using Controlled Vocabulary

- Using MeSH in PubMed
- The MeSH database
 - Major Topic Headings and Explode
 - Using MeSH terms
 - Geographic regions

Why/What MeSH

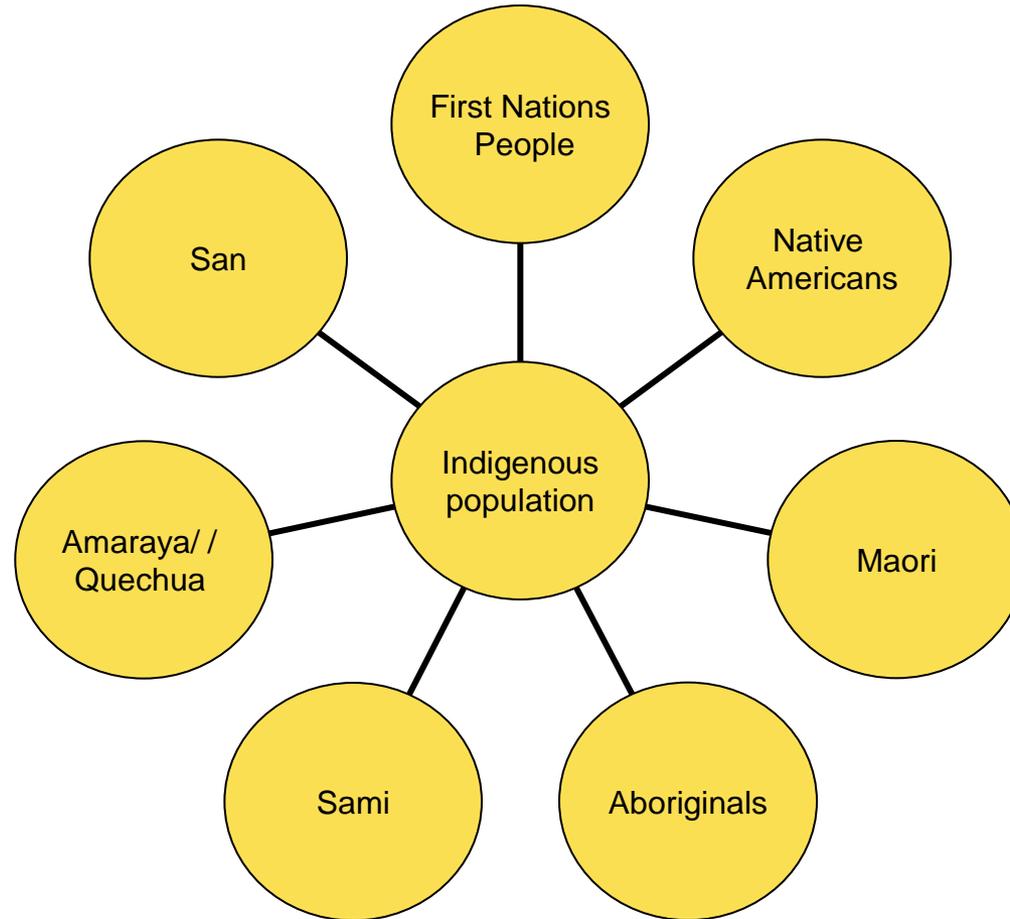
- **What is MeSH?**
- MeSH is the acronym for "**Medical Subject Headings**." MeSH is the authority list of the vocabulary terms used for subject analysis of biomedical literature at NLM. MeSH vocabulary is used for indexing journal articles for **MEDLINE** and is also used for cataloging books and audiovisuals.
- The MeSH controlled vocabulary is a distinctive feature of MEDLINE. It imposes uniformity and consistency to the indexing of biomedical literature. MeSH terms are arranged in a hierarchical categorized manner called MeSH Tree Structures and are updated annually.

Definitions are not always clear.

- *Indigenous is one powerful word. In many ways, the definition within the Facebook group introduction is sufficient: "**indigenous people know who they are**".*
 - Loreine Roy. Indigenous matters in Library and Information Science: An evolving Ecology. Focus on International Library and Information Work 40 (2) 2009 p.46



Terminology changes across borders



Terminology changes over time

286: [HARRIS A. LANE MA.](#)



Psychiatric patients and the Disabled Persons (employment) Act.
Br Med J. 1949 Jun 4;1(4613):982. No abstract available.
PMID: 18144306 [PubMed - OLDMEDLINE]

72: [SUSZYNSKA.](#)



[Rehabilitation of cripple child.]
Pediatr Pol. 1951 Jul;26(7):806-9. Undetermined Language. No abstract available.
PMID: 14882861 [PubMed - indexed for MEDLINE]

219: [Blatt B.](#)



Public policy and the education of children with special needs.
Except Child. 1972 Mar;38(7):537-45. No abstract available.
PMID: 4258637 [PubMed - indexed for MEDLINE]

17: [Griffin VM.](#)



Medical rehabilitation: challenges in managing health information of the specially challenged.
J AHIMA. 1993 Oct;64(10):64-5; quiz 66-7. No abstract available.
PMID: 10128918 [PubMed - indexed for MEDLINE]

1: [Henderson J.](#)



Humanity by design. Industrial designer Patricia Moore's products focus on the rehabilitation needs of elders and of the "differently-abled".
Interiors. 1994 Aug;153(8):58-9. No abstract available.
PMID: 10172110 [PubMed - indexed for MEDLINE]

3: [Nikaitani J.](#)



Raising children with special needs.
Arch Pediatr Adolesc Med. 2008 May;162(5):401-2. No abstract available.
PMID: 18458184 [PubMed - indexed for MEDLINE]

Rela



Terminology is politically charged

- Third World ↔ First World
- Developing Countries ↔ Developed Countries
- Majority Countries ↔ Minority Countries
- South ↔ North
- Everyone Else ↔ Western World



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- To get started, enter one or more search terms.
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Set up an automated PubMed update in less than 5 minutes.

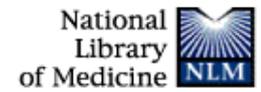
- (1) Get a [My NCBI account](#).
- (2) Save your search.
- (3) Your PubMed updates can be e-mailed directly to you.

Read the [My NCBI Help](#) manual for more information on setting up updates for other databases, setting up

PubMed is a service of the [U.S. National Library of Medicine](#). It contains over 16 million citations from MEDLINE and other journals back to the 1950s. PubMed also provides links to related resources.

Welcome to the PubMed Homepage. Part 3 of the tutorial will look at MeSH or Medical Subject Headings. To access the MeSH Database, click on the link on the left-hand side of the PubMed home page.

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 - Help | FAQ
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- PubMed Services
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 - MeSH Database
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 - Batch Citation Matcher
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Overview
Help | FAQ
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Consumer Health
Clinical Alerts
ClinicalTrials.gov

MeSH is NLM's controlled vocabulary used for indexing articles for MEDLINE/PubMed. MeSH terminology provides a consistent way to retrieve information that may use different terminology for the same concepts.

- Use the MeSH database to find MeSH Terms and build a search strategy.
- MeSH database tutorials:
- Searching with the MeSH Database Animated Tutorial!
 - Combining MeSH Terms Animated Tutorial!
 - Applying Sub... Animated

MeSH is the controlled vocabulary for indexing articles for MEDLINE. MeSH Terms are assigned as Keywords to each record that is "Indexed for MEDLINE".

NB. Articles in PubMed that are not on MEDLINE have no MeSH Terms assigned to their records



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Display Full Show: 20 Send to Search Box with AND

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 - Help | FAQ
 - Tutorial
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 - Clinical Queries
 - LinkOut
 - Cubby
- Related Resources
 - Order Documents
 - NLM Gateway
 - TOXNET
 - Consumer Health
 - Clinical Alerts
 - ClinicalTrials.gov

- If making selections (e.g., Subheadings, etc.), use the [Send to Search Box](#) feature to see PubMed records with those specifications.
- Select PubMed under the Links menu to retrieve all records for the MeSH Term.
- Select [NLM MeSH Browser](#) under the Links menu for additional information.

1: Developing Countries [Links](#)
Countries in the process of change directed toward economic growth, that is, an increase in production, per capita consumption, and income. The process of economic growth involves better utilization of natural and human resources, which results in a change in the social, political, and economic structures.
Year introduced: 1971

Subheadings:

classification economics history statistics and numerical data

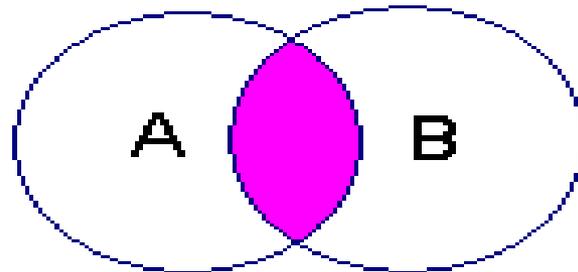
- Restrict Search to Major Topic headings of this term
- Do Not Explode this term (i.e., do not include subheadings)

Entry Terms:

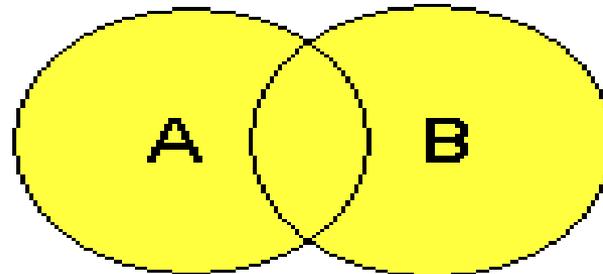
- Countries, Developing
- Country, Developing
- Developing Country

The *Developing Countries* MeSH term was introduced in 1971 and is defined by the NLM, and not by the UNDP or World Bank.

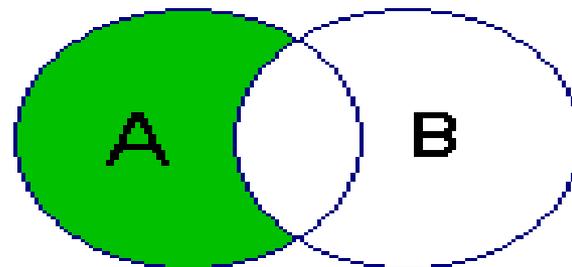
Boolean Search



AND

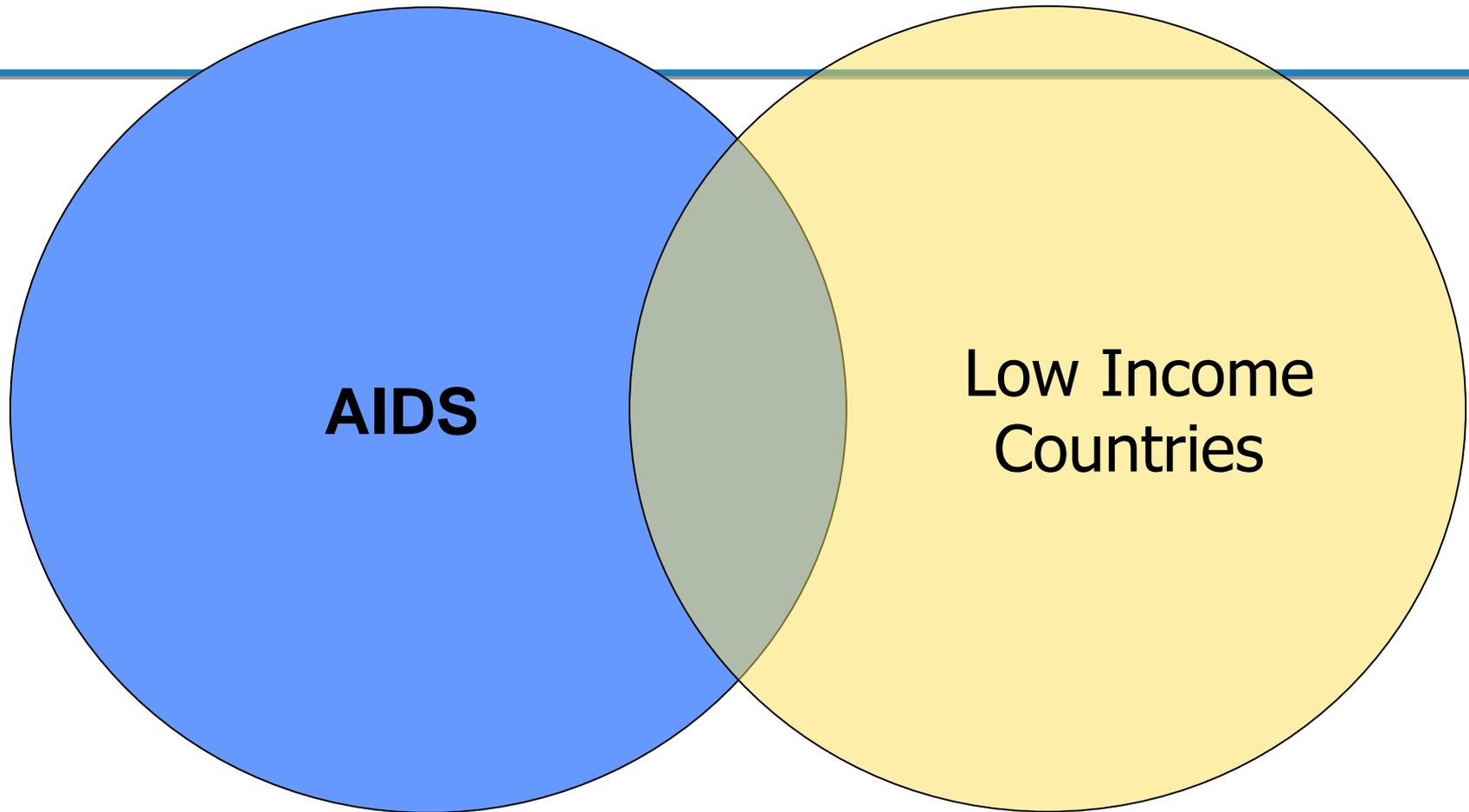


OR



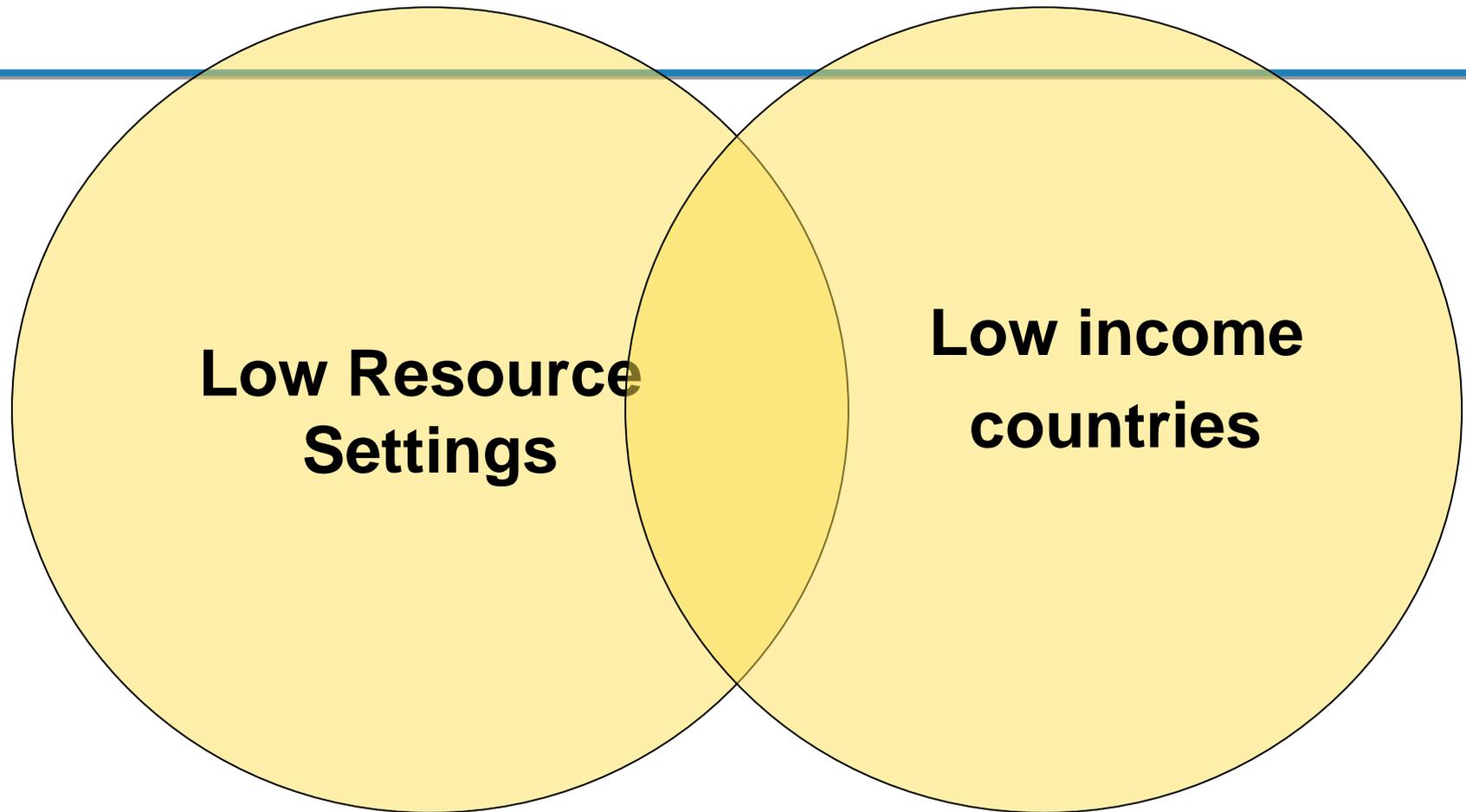
NOT

AND – Both concepts present



AND= Finds results that contain both keywords.

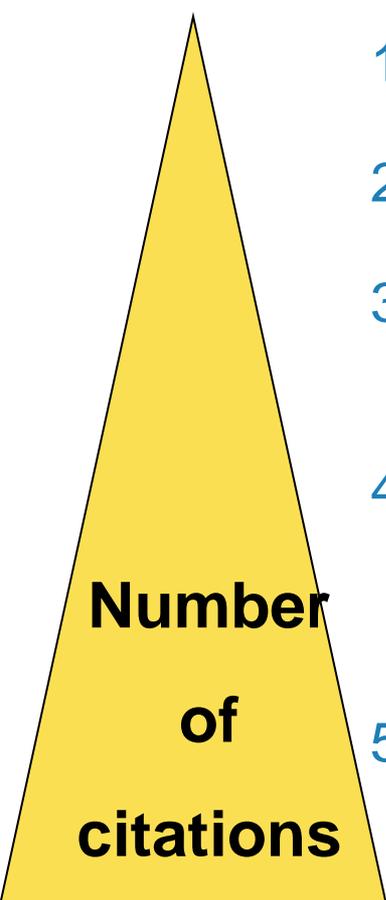
OR – Similar concepts EITHER/OR



OR = Finds results that contain either keyword

Recall – Number of articles found

Search 1 very few articles



**Number
of
citations**

1. "HIV Infections/prevention and control" [Major]
2. "HIV infections/prevention and control" [MeSH]
3. HIV infections [MeSH] AND "prevention and control "[Subheading]
4. (HIV infection* OR HIV infections [MeSH]) AND (prevention OR control OR "prevention and control "[Subheading])
5. (AIDS OR HIV OR HIV infections [MeSH]) AND ((Prevent* AND control*) or ("prevention and control "[Subheading]))

Precision – Articles found that are relevant to the study question.

Relevance to the question

1. "HIV Infections/prevention and control"[Majr]
2. "HIV infections/prevention and control" [MeSH]
3. HIV infections [MeSH] AND "prevention and control "[Subheading]
4. (HIV infection* OR HIV infections [MeSH]) AND (prevention OR control OR "prevention and control "[Subheading])
5. (AIDS OR HIV OR HIV infections [MeSH]) AND ((Prevent* AND control*) or ("prevention and control "[Subheading]))

The balance

Too much (not relevant to the study question)

Too little(missing important studies to the study question)

- In **Precision**, relevant articles but what do we miss

19: [Malyuta R, Newell ML, Ostergren M, Thorne C, Zhilka N.](#)



Prevention of mother-to-child transmission of HIV infection: Ukraine experience to date.
Eur J Public Health. 2006 Apr;16(2):123-7. Epub 2006 Feb 13.
PMID: 16476684 [PubMed - indexed for MEDLINE]

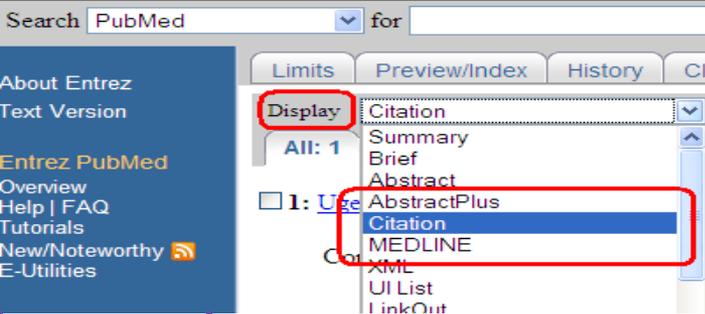
- In **Recall**, what do we get that is NOT relevant

18: [Lange DE, Mutschelknauss R.](#)



[Aids for prevention of periodontal diseases]
Quintessenz. 1974 Nov;25(11):95-102. German. No abstract available.
PMID: 4533812 [PubMed - indexed for MEDLINE]





Spear Fishing

1: [Ugeskr Laeger](#). 2008 Jun 23;170(26-32):2359; author reply 2360.

Comment on:

- [Ugeskr Laeger](#). 2008 Mar 17;170(12):1056.

[Male circumcision--an evidence-based preventive measure]

[Article in Danish]

[Lohse N](#), [Weiss H](#), [Hankins C](#).

Publication Types:

- [Comment](#)
- [Letter](#)

MeSH Terms:

- [Acquired Immunodeficiency Syndrome/prevention & control](#)
- [Africa South of the Sahara](#)
- [Circumcision, Male*](#)
- [Communicable Disease Control](#)
- [Developing Countries](#)
- [Evidence-Based Medicine](#)
- [HIV Infections/prevention & control*](#)
- [Humans](#)
- [Male](#)
- [World Health](#)

4

1. Perform a keyword search on your topic (example: AIDS and Low Income Countries).
2. Find a relevant result
3. Change the **Display** pull-down in the gray area above the item to **Citation**.
4. Click on a relevant term from **MeSH Terms** list to search on it.

Where's the MeSH Database?

Two Options

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New/Noteworthy
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Drop Down Menu and select MeSH
Click on the MeSH Database in the Menu

Searching HIV finds 201 possible MeSH

The screenshot shows the MeSH search interface. At the top, the NCBI logo and 'MeSH and the National Institutes of Health' are visible. A navigation bar includes links for 'All Databases', 'PubMed', 'Nucleotide', 'Protein', 'Genome', 'Structure', 'OMIM', 'PMC', and 'Journals'. The search bar contains 'MeSH' in a dropdown and 'for hiv' in the input field. Below the search bar are buttons for 'Limits', 'Preview/Index', 'History', 'Clipboard', and 'Details'. A 'Suggestions' section lists related terms like 'Hiv', 'Hib', 'Hip', etc. The 'Display' dropdown is set to 'Summary', and 'Show' is set to '20'. A button indicates 'All: 201' items. The results section shows 'Items 1 - 20 of 201' and lists two items: '1: HIV Seropositivity' and '2: HIV', each with a brief description and 'Year introduced: 1988'.

NCBI MeSH and the National Institutes of Health

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Search MeSH for hiv Go Clear Save Search

Limits Preview/Index History Clipboard Details

Suggestions: [Hiv](#), [Hib](#), [Hip](#), [Hives](#), [Hivid](#), [Hida](#), [Hivig](#), [Hipp](#), [Hitc](#), [Hüa](#), [More...](#)

Display Summary Show 20 Send to

All: 201

Items 1 - 20 of 201 Page 1

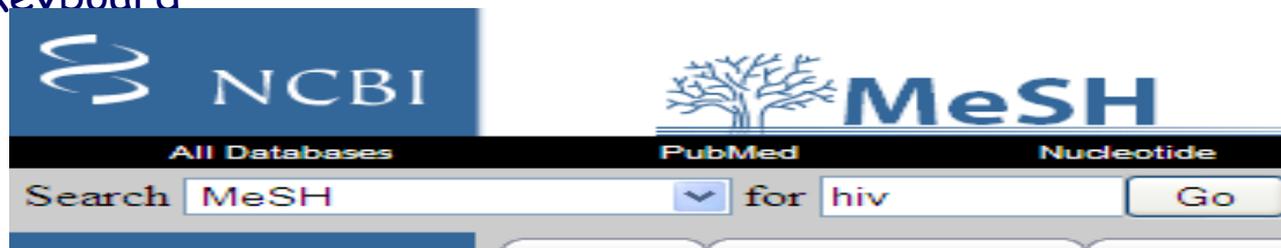
1: [HIV Seropositivity](#)
Development of neutralizing antibodies in individuals who have been exposed to the human immunodeficiency virus (HIV/H III/LAV).
Year introduced: 1988

2: [HIV](#)
Human immunodeficiency virus. A non-taxonomic and historical term referring to any of two species, specifically HIV-1 and 2. Prior to 1986, this was called human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV) 1986-1990, it was an official species called HIV. Since 1991, HIV was no longer considered an official species name; the species were designated HIV-1 and HIV-2.
Year introduced: 1988

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Text Version
Entrez PubMed
Overview
Help | FAQ
Tutorials
New/Noteworthy
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PubMed Services
Journals Database
MeSH Database
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Matcher
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Which MeSH to Select?

- Go to the **MeSH Database**
- Type a term in the search box
- Click **[Go]** or hit **ENTER** on your keyboard



HIV Infections

Links

Includes the spectrum of human immunodeficiency virus infections that range from asymptomatic seropositivity, thru AIDS-related complex (ARC), to acquired immunodeficiency syndrome (AIDS).

Year introduced: 1990

- Click on the hyperlinked term.

Then... →



Attach subheadings to your MeSH term

1: HIV Infections

Links

Includes the spectrum of human immunodeficiency virus infections that range from asymptomatic seropositivity, thru AIDS-related complex (ARC), to acquired immunodeficiency syndrome (AIDS).

Year introduced: 1990

Subheadings: This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules for allowable combinations.

blood cerebrospinal fluid chemically induced classification complications congenital diagnosis diet therapy drug therapy economics embryology enzymology epidemiology ethnology etiology genetics history immunology metabolism microbiology mortality nursing parasitology pathology physiopathology prevention and control psychology radiography radionuclide imaging radiotherapy rehabilitation surgery therapy transmission ultrasonography urine veterinary virology

Click in the checkboxes in front of subheadings for aspects of the topic you're interested in. Add many--or none!

The hyperlink [Subheadings](#) shows definitions of these terms

MeSH term
+ Subheading

Specific!

Each subheading attaches directly to its subject term.

It's as if you were searching the phrase "prevention and control of HIV infections."

Results from searching the term/subheading *HIV Infections/prevention and control* should be more relevant than if you had combined the separate terms *HIV AND Prevention and control*.



A record in Citation Display format will have **asterisks** to show which topics are of **major** importance in the article.

MeSH terms without asterisks represent topics covered in the article but not its main focus.

1: [AIDS](#), 2008 Sep 12;22(14):1841-50.

Male circumcision for HIV prevention in sub-Saharan Africa: who, what and when?

[White RG](#), [Glynn JR](#), [Orroth KK](#), [Freeman EE](#), [Bakker R](#), [Weiss HA](#), [Kumaranayake L](#), [Habbema JD, RJ](#).

London School of Hygiene and Tropical Medicine, London, UK. richard.white@lshtm.ac.uk

MeSH Terms:

- [Adult](#)
- [Africa South of the Sahara](#)
- [Age Factors](#)
- [Circumcision, Male/economics](#)
- [Circumcision, Male/utilization*](#)
- [Cost-Benefit Analysis](#)
- [Counseling](#)
- [Developing Countries*](#)
- [Disease Transmission, Horizontal/prevention & control](#)
- [HIV Infections/economics](#)
- [HIV Infections/prevention & control*](#)
- [HIV-1*](#)
- [Health Care Costs](#)
- [Humans](#)
- [Male](#)
- [Sexual Behavior](#)

Those highlighted in **Green** (economics concept) are minor.



To limit results to articles in which your concept is a central idea or major focus:

*

1. Go to **MeSH Database**
2. Type in your term. Click **GO**/hit **ENTER**.
3. Click on the *most appropriate* MeSH term.
4. Click in the "**Restrict to Major Topic headings**" checkbox directly beneath the subheadings list, as shown below.

1 HIV Infections

Includes the spectrum of human immunodeficiency virus infections that range from asymptomatic seropositivity, complex (ARC), to acquired immunodeficiency syndrome (AIDS).

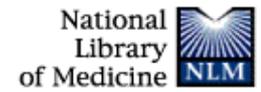
Year introduced: 1990

Subheadings: This list includes those paired at least once with this heading in MEDLINE and may not reflect allowable combinations.

blood cerebrospinal fluid chemically induced classification complications congenital diagnosis drug therapy economics embryology enzymology epidemiology ethnology etiology genetics immunology metabolism microbiology mortality nursing parasitology pathology physiopathology and control psychology radiography radionuclide imaging radiotherapy rehabilitation surgery ultrasonography urine veterinary virology

Restrict Search to Major Topic headings only.

Do Not Explode this term (i.e., do not include MeSH terms found below this term in the MeSH tree).



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search MeSH for DEVELOPING COUNTRIES Go Clear

Limits Preview/Index History Clipboard Details

- About Entrez
- Text Version
- Entrez PubMed
 - Overview
 - Help | FAQ
 - Tutorial
 - New/Noteworthy
 - E-Utilities
- PubMed Services
 - Journals Database
 - MeSH Database
 - Single Citation Matcher
 - Batch Citation Matcher
 - Clinical Queries
 - LinkOut
 - Cubby
- Related Resources
 - Order Documents
 - NLM Gateway
 - TOXNET
 - Consumer Health
 - Clinical Alerts
 - ClinicalTrials.gov

[MeSH](#) is NLM's controlled vocabulary used for indexing articles for MEDLINE/PubMed. MeSH terminology provides a consistent way to retrieve information that may use different terminology for the same concepts.

- Use the MeSH database to find MeSH Terms and build a search strategy.

MeSH database tutorials:

- Searching with the MeSH Database Animated Tutorial!
- Combining MeSH Terms Animated Tutorial!
- Applying Subheadings and other features of the MeSH Database Animated Tutorial!

There is a MeSH term for *Developing Countries*.



1. Type in term
2. Click **[Go]** or hit **ENTER** on keyboard
3. Scan list for best term. Click on **Links** at its right.

3

- If making selections (e.g., Subheadings, etc.), use the [Send to Search Box](#) feature to see PubMed records with those specifications.
- Select PubMed under the Links menu to retrieve all records for the MeSH Term.
- Select [NLM MeSH Browser](#) under the Links menu for additional information.

1: Developing Countries

Countries in the process of change directed toward economic growth, that is, income. The process of economic growth involves better utilization of natural and social, political, and economic structures.

Year introduced: 1971

The *Developing Countries* MeSH term was introduced in 1971 and is defined by the NLM, and not by the UNDP or World Bank.

Subheadings: This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules for allowable combinations



A service of the National Library of Medicine and the National Institutes of Health

My NCBI [Sign In] [Register]

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for "Developing Countries"[Mesh] Go Clear Save Search

Limits Preview/Index History Clipboard* Details

Display Summary Show 20 Sort by Send to

All: 47671 Free full text: 3237 HINARI: 7542

About Entrez
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New/Noteworthy
E-Utilities

PubMed Services
Journals Database
MeSH Database
Single Citation
Matcher
Batch Citation
Matcher
Clinical Queries
Special Queries
LinkOut
My NCBI

The results of the *Developing Countries[Mesh]* search is 47671 articles (07 2007).

1: [Zarocostas J.](#)

Poor countries lose 15
BMJ. 2007 Jul 21;335(7611):119. No abstract available.
PMID: 17641331 [PubMed - indexed for MEDLINE]

2: [Maulik PK, Darmstadt GL.](#)

Childhood disability in low- and middle-income countries: overview of screening, prevention, services, legislation, and epidemiology.
Pediatrics. 2007 Jul;120 Suppl 1:S1-55. Review.
PMID: 17603094 [PubMed - indexed for MEDLINE]

3: [Wakabi W.](#)

Global health agencies agree to HIV/AIDS partnership.
Lancet. 2007 Jul 7;370(9581):15-6. No abstract available.
PMID: 17632852 [PubMed - indexed for MEDLINE]

Related Articles, Links

Related Articles, Links



1. Type in term
2. Click **[Go]** or hit **ENTER** on keyboard
3. Scan list for best term. Click on **Links** at its right.

3

- If making selections (e.g., Subheadings, etc.), use the [Send to Search Box](#) feature to see PubMed records with those specifications.
- Select PubMed under the Links menu to retrieve all records for the MeSH Term.
- Select [NLM MeSH Browser](#) under the Links menu for additional information.

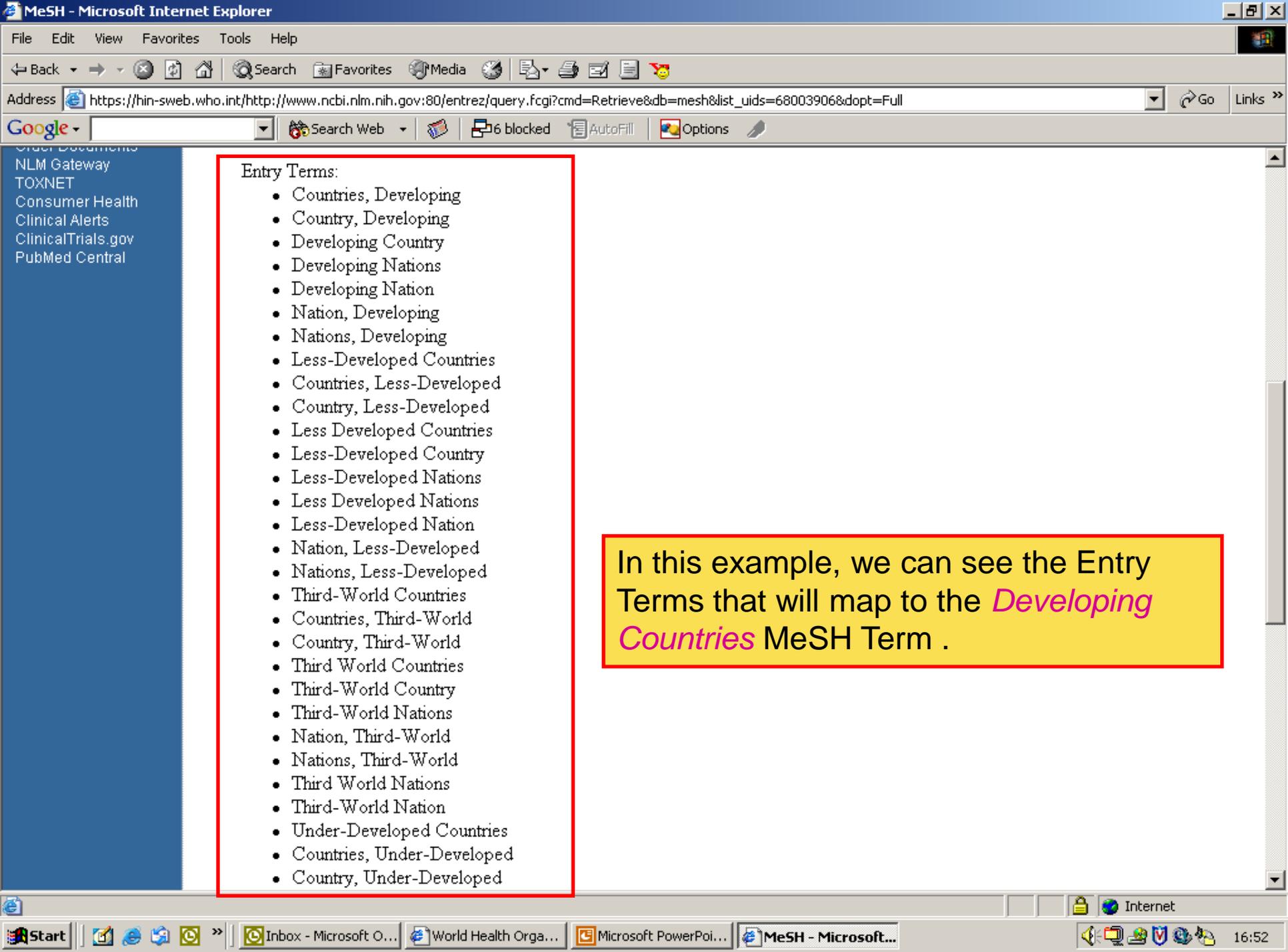
1: Developing Countries

Countries in the process of change directed toward economic growth, that is, income. The process of economic growth involves better utilization of natural and social, political, and economic structures.

Year introduced: 1971

The *Developing Countries* MeSH term was introduced in 1971 and is defined by the NLM, and not by the UNDP or World Bank.

Subheadings: This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules for allowable combinations



Entry Terms:

- Countries, Developing
- Country, Developing
- Developing Country
- Developing Nations
- Developing Nation
- Nation, Developing
- Nations, Developing
- Less-Developed Countries
- Countries, Less-Developed
- Country, Less-Developed
- Less Developed Countries
- Less-Developed Country
- Less-Developed Nations
- Less Developed Nations
- Less-Developed Nation
- Nation, Less-Developed
- Nations, Less-Developed
- Third-World Countries
- Countries, Third-World
- Country, Third-World
- Third World Countries
- Third-World Country
- Third-World Nations
- Nation, Third-World
- Nations, Third-World
- Third World Nations
- Third-World Nation
- Under-Developed Countries
- Countries, Under-Developed
- Country, Under-Developed

In this example, we can see the Entry Terms that will map to the *Developing Countries* MeSH Term .

To Explode or not Explode ?

Search MeSH for [Go] [Clear]

Limits Preview/Index History Clipboard Details

"Developing Countries"[Mesh] OR "Africa"[Mesh] **NoExp** **3**

Search PubMed [Clear]

Display Full Show 20 Send to **2**

- If making selections (e.g., Subheadings, etc.), use the [Send to](#) PubMed records with those specifications.
- Select PubMed under the Links menu to retrieve all records for the selected MeSH terms.
- Select [NLM MeSH Browser](#) under the Links menu for additional information.

1: Africa

[Subheadings](#): This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules : allowable combinations.

epidemiology ethnology

Restrict Search to Major Topic headings only.

Do Not Explode this term (i.e., do not include MeSH terms found below this term in the MeSH tree).

1

2

3

Send to

- Send to
- Text
- File
- Printer
- Clipboard
- Search Box with AND
- Search Box with OR**
- Search Box with NOT

1: Africa

Subheadings: This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules combinations.

epidemiology ethnology

Restrict Search to Major Topic headings only.

Do Not Explode this term (i.e., do not include MeSH terms found below this term in the MeSH tree).

All MeSH Categories

Geographical Locations Category

Geographic Locations

Africa

Africa, Northern

Algeria

Egypt

Libya

Morocco

Tunisia

Africa South of the Sahara

Africa, Central +

Africa, Eastern +

Africa, Southern +

Africa, Western +

To Explode or Not to Explode?

PubMed **automatically** explodes MeSH terms.

To “unexplode” ¹, click in the checkbox immediately beneath the checkbox for Major MeSH.

¹ search only for articles on the **general** topic or those that discuss **multiple specific** topics

Exploding means searching for both a term and all more specific terms under it in the MeSH “tree” of terms.

Africa (as a continent) [MeSH:NOEXP]

Africa and every country [MeSH]

The screenshot shows the MeSH search interface. At the top, there are logos for NCBI and MeSH, and text indicating it is a service of the National Library of Medicine and the National Institutes of Health. Below the logos is a navigation bar with tabs for 'All Databases', 'PubMed', 'Nucleotide', 'Protein', 'Genome', and 'Structure'. The search bar contains the text 'Search MeSH for' followed by a search box and 'Go' and 'Clear' buttons. Below the search bar is a menu with tabs for 'Limits', 'Preview/Index', 'History', 'Clipboard', and 'Details'. The main search area contains the query: "Developing countries" [Mesh] OR "Africa"[Mesh:NOExp]. The 'Mesh:NOExp' part is circled in red. Below the search area are 'Search PubMed' and 'Clear' buttons. At the bottom of the search area, there are dropdown menus for 'Display' (set to 'Full'), 'Show' (set to '20'), and 'Send to'.

1: Africa

[Subheadings](#): This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules allowable combinations.

epidemiology ethnology

Restrict Search to Major Topic headings only.

Do Not Explode this term (i.e., do not include MeSH terms found below this term in the MeSH tree).

Articles that address the issues of preventive measures of AIDS in low income countries?

Concept 1

Use OR to combine alternative terms and synonyms

AIDS

AND

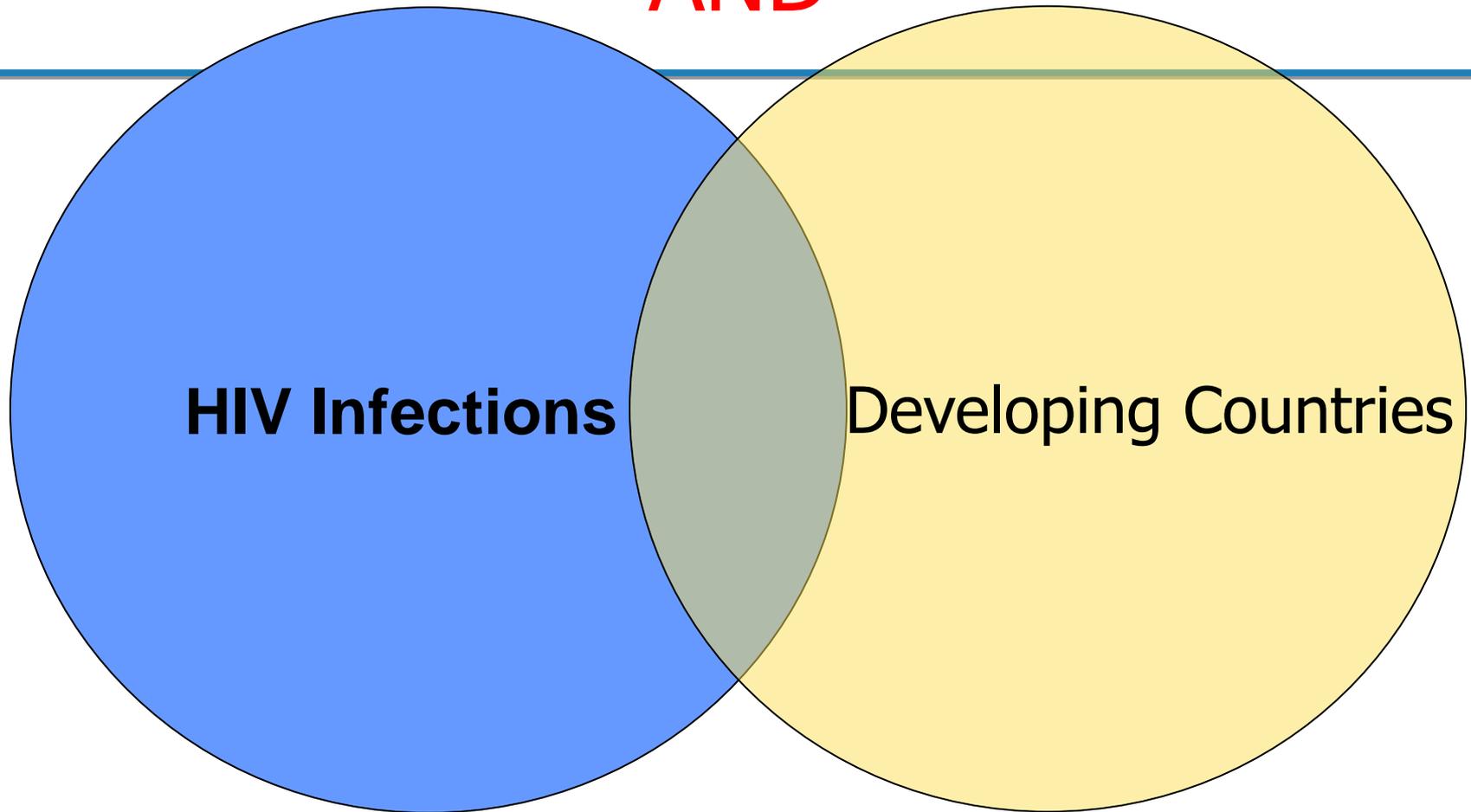
Concept 2

Use OR to combine alternative terms and synonyms

Low Income Countries

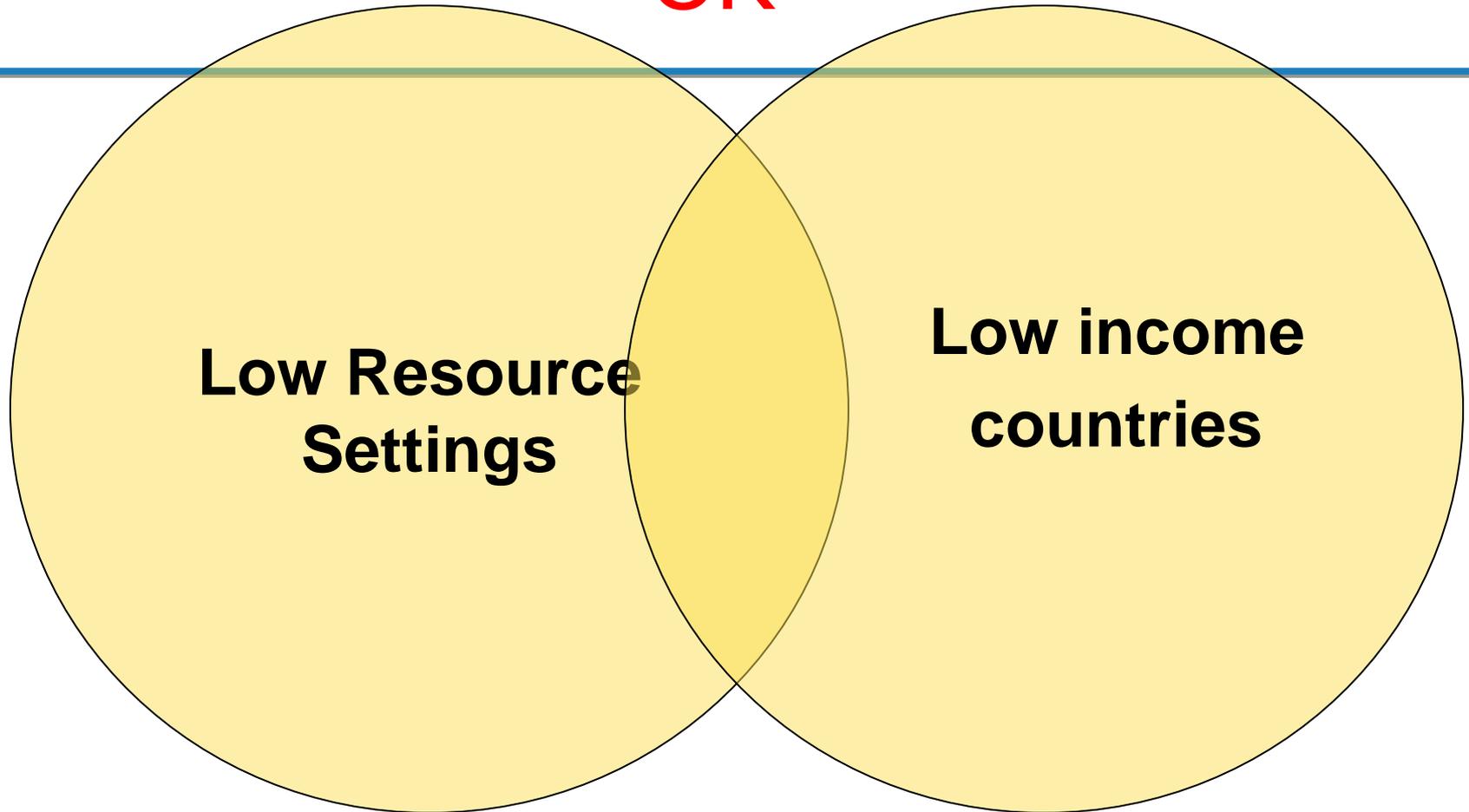


AND



AND= Finds results that contain both keywords.

OR



OR = Finds results that contain either keyword

Articles that address the issues of prevention of AIDS in developing countries??

Concept 1

Use OR to combine alternative terms and synonyms

“HIV infections” [MeSH]

OR

“HIV infection*”

OR

“AIDS”

AND

Concept 2

Use OR to combine alternative terms and synonyms

“Developing countries”[MeSH]

OR

“Africa ”[MeSH:NOExp]

OR

“low income countries”

Truncation

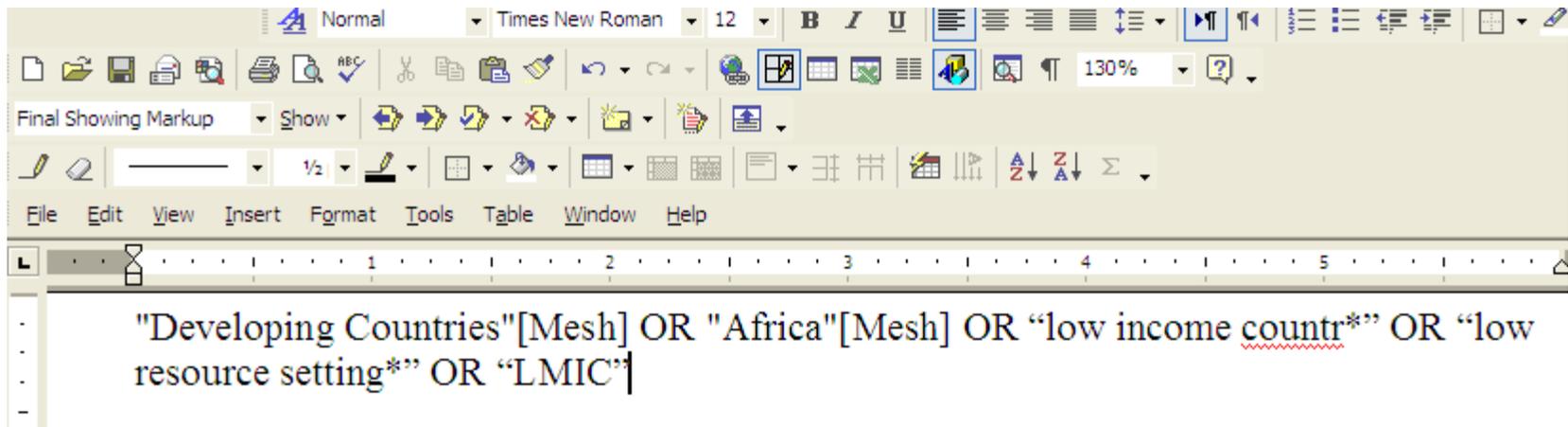
- You can use truncation with key words (not with MeSH)
- So to find "HIV infections" or "HIV infection" , type
 - **"HIV infection*"** which will find both! Or **"HIV infect*"**
 - **But be careful.... Preven* =**

All Fields Preview Index

Click to add a term to the query box

preven (30)	<input type="button" value="▲"/>	<input type="button" value="Up"/>
preven d (5)		
preven dw (3)		
preven ted (1)		
preven, david (1)		
preven6cni (1)		
prevena (1)		
prevenaao (1)		
prevenant (2)		
prevenante (1)	<input type="button" value="▼"/>	<input type="button" value="Down"/>

Use WORD to build strategy



Type in the keywords you would like to include, put phrases in “quotation marks” and truncate where appropriate.

Checking the DETAILS tab

- "Developing Countries"[Mesh] OR "Africa"[Mesh] OR "low income countries" OR "low income country" OR "low resource setting*" OR "LMIC" ([in PubMed](#))
- "HIV Infections"[Mesh] OR "HIV infection*" OR "Acquired immunodeficiency*" OR AIDS ([in PubMed](#))
- "HIV Infections"[Mesh] OR "HIV infection*" OR "Acquired immunodeficiency*" ([in PubMed](#))

Problem with truncating : “low income countr*”

Limits Preview/Index History Clipboard **Details**

New Try the new Advanced Search
Incorporating Limits, History, Preview/Index, Details, and Citation Search

Query Translation:

```
"Developing Countries"[Mesh] OR "Africa"[Mesh] OR (low[All  
Fields] AND ("income"[MeSH Terms] OR "income"[All Fields])  
AND countr[All Fields]) OR "low resource setting*" [All  
Fields] OR "LMIC"[All Fields]
```

Search URL

Result:
[170295](#)

Quoted phrase not found:
"low income countr*"

Is “aids”[ALL Fields] retrieving too many irrelevant citations?

Query Translation:

```
"HIV Infections"[Mesh] OR "HIV infection*" [All Fields] OR  
Acquired [All Fields] OR ("acquired immunodeficiency  
syndrome"[MeSH Terms] OR ("acquired"[All Fields]  
AND "immunodeficiency"[All Fields] AND "syndrome"[All  
Fields]) OR "acquired immunodeficiency syndrome"[All  
Fields] OR "aids"[All Fields])
```

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for (#3) AND (#5) Preview Go Clear [Advanced Search](#)

Limits Preview/Index **History** Clipboard Details

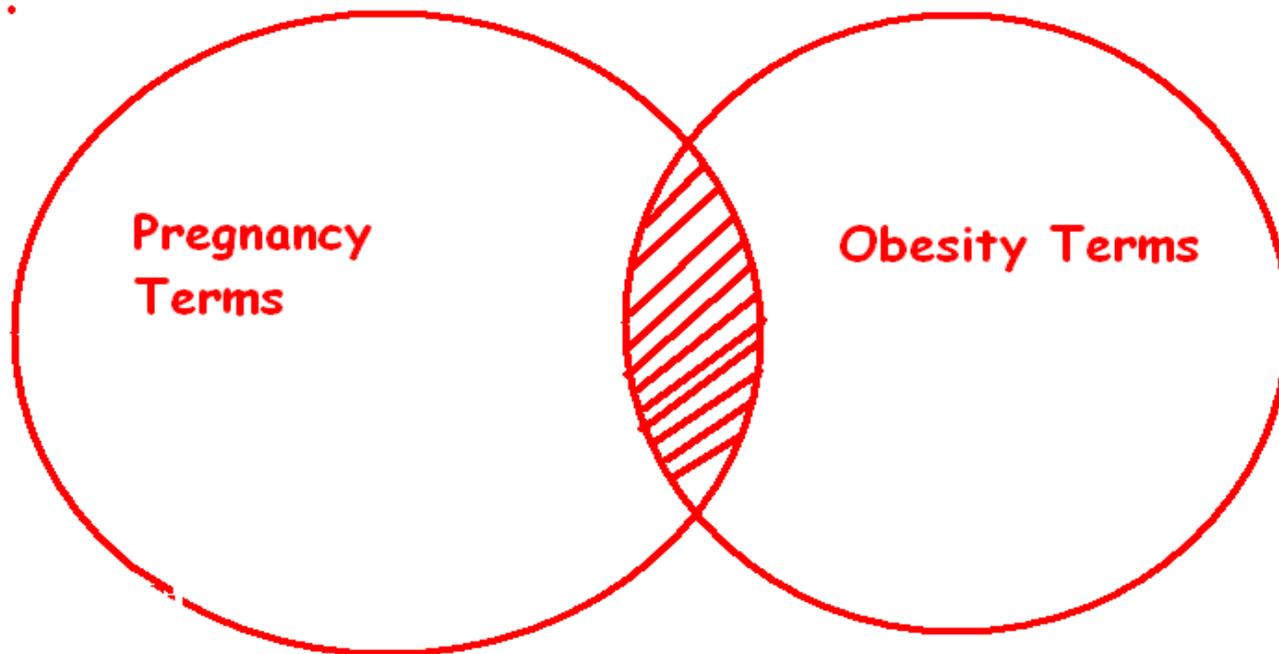
New Try the new **Advanced Search**
Incorporating Limits, History, Preview/Index, Details, and Citation Search

- Search History will be lost after eight hours of inactivity.
- Search numbers may not be continuous; all searches are represented.
- To save search indefinitely, click query # and select Save in My NCBI.
- To combine searches use #search, e.g., #2 AND #3 or click query # for more options.

Search	Most Recent Queries
#5	Search "HIV Infections"[Mesh] OR "HIV infection*" OR "Acquired immunodeficiency*"
#4	Search "HIV Infections"[Mesh] OR "HIV infection*" OR "Acquired immunodeficiency*" OR AIDS
#3	Search "Developing Countries"[Mesh] OR "Africa"[Mesh] OR "low income countries" OR "low income country" OR "low resource setting*" OR "LMIC"



The basic search



Finding Pregnancy related terms

1: [WMJ](#). 2004;103(5):61-6.

Pregnancy-associated deaths and pregnancy-related deaths in Wisconsin, 1998-2001.

[Mascola MA](#), [Schellpfeffer MA](#), [Kruse TK](#), [Conway AE](#), [Kvale KM](#), [Katcher ML](#).

Bureau of Community Health Promotion, Division of Public Health, Department of Health and Family Service, Madison, WI 53701-2659, USA.

BACKGROUND: Although the risk of dying during **childbirth** or from complications afterward has been greatly reduced during the past 100 years, the current rate of approximately 1 death in 10,000 **live births** is still too high. The goal of the US Department of Health and Human Services is to reduce this rate by more than half by the year 2010. OBJECTIVE: To present Wisconsin data regarding **pregnancy-associated deaths** and **pregnancy-related deaths**. METHODS: Cases in which a woman had died during pregnancy or within 1 year of the end of her pregnancy were identified, and case-specific data were collected. The Wisconsin **Maternal Mortality** Review Team then conducted systematic reviews of the information, summarized issues related to maternal mortality, considered the relationship to pregnancy and factors of avoidability, and made recommendations to improve **maternal health** and survival. Finally, pregnancy-associated and pregnancy-related mortality ratios were calculated. RESULTS: From 1998 through 2001, 23 Wisconsin women died as a result of their pregnancy or from complications up to a year later. This gives a Wisconsin pregnancy-related mortality ratio of 8.4 per 100,000 live births. This ratio was higher in African American women and in women who smoked. The primary cause of death was embolic disease. Almost half of the pregnancy-related deaths (48%) occurred during the **postpartum period** and nearly one-quarter (22%) were avoidable. CONCLUSIONS: The disparity in pregnancy-related mortality ratios among ethnic groups and the finding of avoidable deaths are areas that should be targeted by health care providers and public health workers. Six areas on which to focus include the following: addressing racial disparities, assuring the performance of autopsies, lifestyle changes related to obesity and smoking, and management of embolic and cardiovascular disease, as well as **postpartum hemorrhage**.

Finding all the terms to describe your search

1: [Int J Behav Nutr Phys Act](#). 2006 Nov 26;3:42.

Specific food intake, fat and fiber intake, and behavioral correlates of BMI among overweight and obese members of a managed care organization.

[Linde JA](#), [Utter J](#), [Jeffery RW](#), [Sherwood NE](#), [Pronk NP](#), [Boyle RG](#).

Division of Epidemiology and Community Health, School of Public Health, University of Minnesota, Minneapolis, MN, USA. linde@epi.umn.edu.

ABSTRACT: BACKGROUND: The study examined correlates of body mass index (BMI) in overweight and obese members of a managed care organization seeking treatment for obesity. It assessed intake of specific foods, dietary fat or fiber, and behaviors attempted to control weight. METHODS: Participants were 508 men and 1293 women who were > 18 years and had a self-reported BMI > 27.0. This paper reports analyses of baseline and 24-month follow-up data from a randomized weight-loss trial. Cross-sectional and prospective relationships between BMI and behaviors were examined with regression analyses controlling for age and education. RESULTS: At baseline, hamburger and beef consumption were associated with higher BMI for men; for women, hamburger, fried chicken, hot dog, bacon or sausage, egg, French fry, and overall fat consumption were associated with higher BMI, while eating high fiber cereal, fruit, and overall fiber intake were associated with lower BMI. Virtually all forms of weight control behavior were reported more often in heavier people. Subscribing to exercise magazines, however, was associated with lower BMI. Decreased fat intake and increased fruit/vegetable/fiber intake over the course of the study were associated with reductions in BMI at 24 months. CONCLUSION: The same behaviors that differentiate individuals with different body weight in the general population also differentiate between individuals of different body weights at the high end of the weight distribution. Educational efforts aimed at preventing weight gain and reducing obesity might benefit from focusing on specific foods known to be associated empirically with body weight and weight change over time.

PMID: 17125525 [PubMed - in process]

No Abstract ?

Display **Citation** Show 20 Sort by Send to

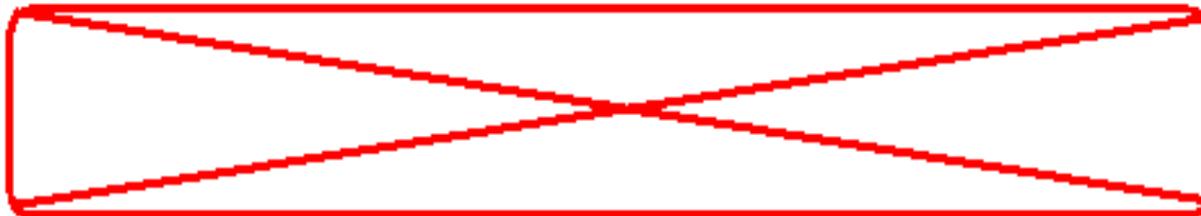
All: 1 Review: 0 

1: [Harv Health Lett.](#) 2005 Mar;30(5):4.

Is it okay to be fat if you're fit? Research suggests that physical activity may cancel out some of the bad effects of being overweight or obese.

[No authors listed]

PMID: 16526111 [PubMed - indexed for MEDLINE]



How to maximize your selection

NCBI PubMed *A service of the National Library of Medicine and the National Institutes of Health* www.pubmed.gov

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals

Search PubMed for [] Go Clear

Limits Preview/Index History Clipboard Details

Display Citation Show 20 Sort by Send to

All: Citation MEDLINE XML UI List LinkOut ASN.1 Related Articles Cited Articles Cited in Books CancerChrom Links Domain Links

PMID: 16526111 [PubMed - indexed for citation]

[No authors listed]

MeSH Terms:

- [Body Composition](#)
- [Exercise/physiology](#)
- [Female](#)
- [Follow-Up Studies](#)
- [Humans](#)
- [Male](#)
- [Obesity/complications*](#)
- [Obesity/mortality](#)
- [Overweight/physiology](#)
- [Physical Fitness/physiology*](#)

Citation = MeSH are visible

*** = Major Focus or Main Idea**

Where words have double meanings

- ❑ 1: [Eat Behav.](#) 2007 Jan;8(1):73-82. Epub 2006 Feb 21.

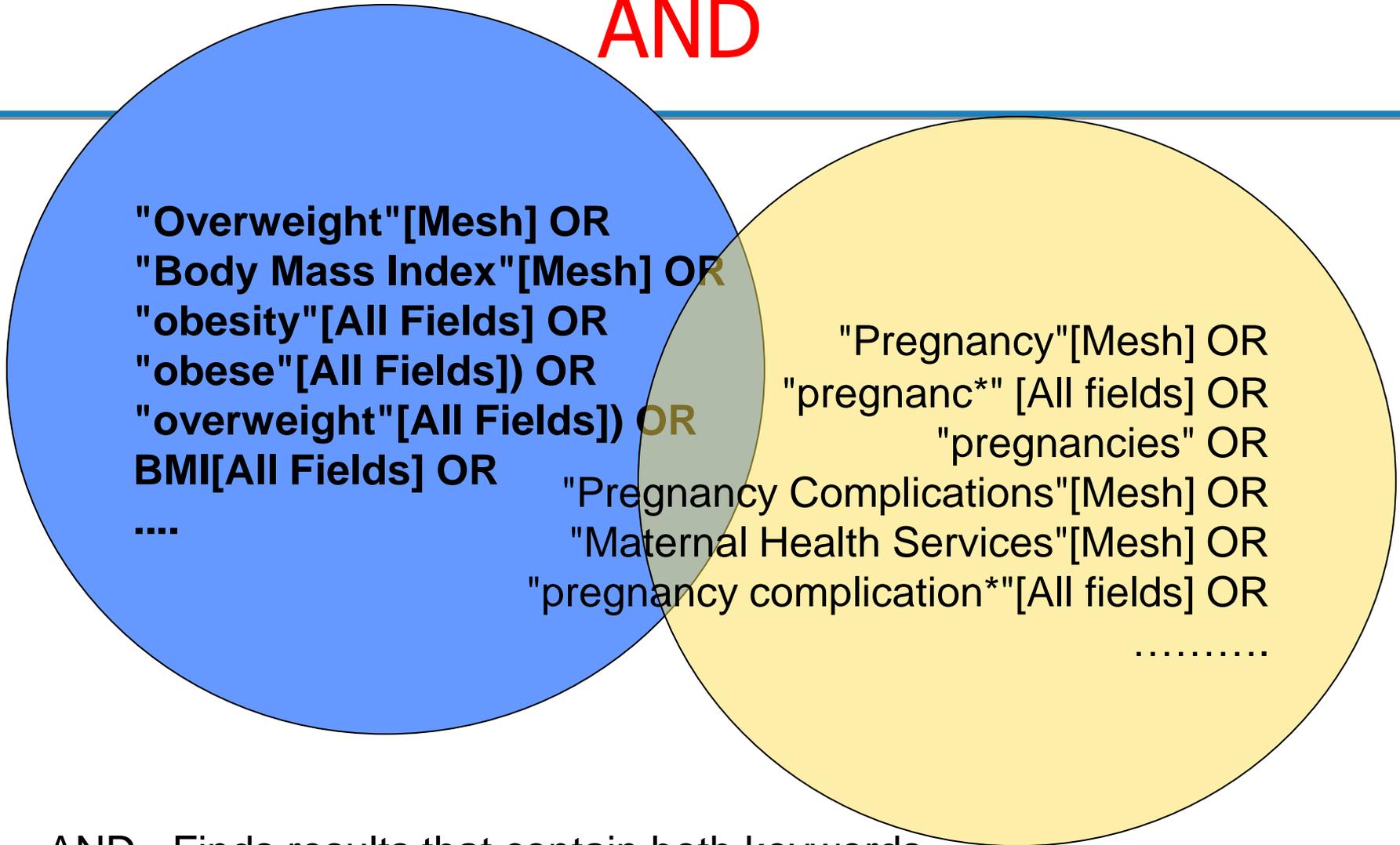
The method of **delivery** of nutrition and physical activity information may play a role in eliciting behavior changes in adolescents.

[Casazza K](#), [Ciccazzo M](#).

Florida International University, College of Health and Urban Affairs, Department of Dietetics and Nutrition, HLS 450, University Park, Miami, Florida 33199, USA. krista1313@msn.com

OBJECTIVES: Motivating adolescents to adopt proper nutrition and physical activity behaviors is important in this nation's fight to prevent obesity and chronic diseases. This study was conducted to determine which health education **delivery** method would elicit a greater behavior change. METHOD: The intervention was conducted in three schools (control, computer-based, and traditional education). RESULTS: Students who received the computer-based intervention showed increased knowledge ($p < 0.001$), physical activity ($p = 0.001$), self-efficacy ($p < 0.001$), and social support ($p < 0.001$), and decreased meals skipped ($p < 0.001$). CONCLUSION: The computer-based group showed more positive behavior changes. However, future programs may be enhanced by including group discussion and individual feedback.

AND



AND= Finds results that contain both keywords.

How to Create a TEST set

NCBI PubMed A service of the U.S. National Library of Medicine and the National Institutes of Health
www.pubmed.gov

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals B

Search PubMed for [] Go Clear

Limits Preview/Index History Clipboard* Details

Display MEDLINE Show 20 Sort By Send to

All: 1 Review: 0

1: [Betrán AP et al.](#) Rates of caesarean section. a...[PMID: 17302638]

PMID- 17302638
OWN - NLM
STAT- MEDLINE
DA - 20070216
DCOM- 20070723
PUBM- Print
IS - 0269-5022 (Print)
VI - 21
IP - 2
DP - 2007 Mar
TI - Rates of caesarean section: analysis of global, regional and national estimates.
PG - 98-113
AB - Rates of caesarean section are of concern in both developed and developing countries. We set out to estimate the proportion of births by caesarean

Change Display to MEDLINE

17302638 [PMID] OR

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for 18029003 [PMID] OR 17938079 [PMID] OR 1707454 Go Clear Save Search

Limits Preview/Index History Clipboard* Details

Display Summary Show 20 Sort By Send to

All: 3 Review: 1

Items 1 - 3 of 3

1: [AbouZahr C, Cleland J, Coullare \(MoVE\) writing group, Anderson Figueroa XC, George CK, Golligly L, Golemboski S, Grollman DC, Hill JA, Hwang C, Hsu JH, Hwang W, Jansen R, Jiang Y, Laurenti R, Li X, Liewesley D, Lopez AD, Fat DM, Merialdi M, Mikkelsen L, Nien JK, Rao C, Rao K, Sankoh O, Shibuya Yang G, Zhang S.](#)

Create Search String by 12345 [PMID] OR 123457 [PMID] OR etc

Save the Search String in My NCBI

The way forward
Lancet. 2007 Nov 2; PMID: 18029003 [PubMed - indexed for MEDLINE]

2: [Bacci A, Lewis G, Baltag V, Betrán AP.](#)
The introduction of confidential enquiries into maternal deaths and near-miss case reviews in the WHO
Reprod Health Matters. 2007 Nov;15(30):145-52.
PMID: 17938079 [PubMed - indexed for MEDLINE]

My NCBI

Test your Search Strategy

- Create the search strategy
- Run in the database such as PubMed
- Check to see if all previous identified studies / articles that are relevant to your question have been found using your search strategy.
- If any articles/studies are not found, examine the studies missed by the search strategy to see what MeSH, keywords or other terms could be used.

How to Test

- Identified article – Jensen (2005) Diabetes Care. **Gestational weight gain and pregnancy outcomes in 481 obese glucose-tolerant women.**
- Search strategy Obesity AND Pregnancy in PubMed
- Jensen (2005) article not found
- (Identified articles) NOT (Search strategy articles) = 0 Good Search
- (Identified articles) NOT (Search strategy articles) = <0 Not Good Search

1: [Diabetes Care](#). 2005 Sep;28(9):2118-22.



Gestational weight gain and pregnancy outcomes in 481 obese glucose-tolerant women

[Jensen DM](#), [Ovesen P](#), [Beck-Nielsen H](#), [Molsted-Pedersen](#)

MeSH Terms:

- [Adult](#)
- [Appetite](#)
- [Birth Weight](#)
- [Blood Glucose/metabolism*](#)
- [Body Mass Index](#)
- [Female](#)
- [Food Preferences](#)
- [Glucose Tolerance Test](#)
- [Humans](#)
- [Infant, Newborn](#)
- [Pregnancy/blood*](#)
- [Reference Values](#)
- [Smoking](#)
- [Weight Gain*](#)

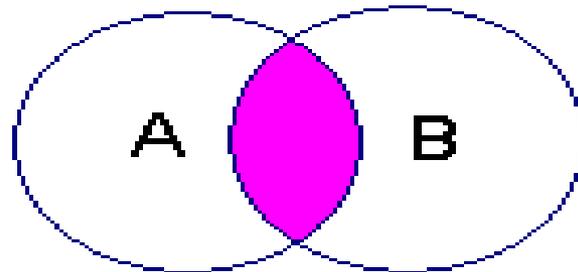
Need to add terms
such as
Weight Gain

Pregnancy term found,
but obese in this case
has used the MeSH
term "Weight Gain"

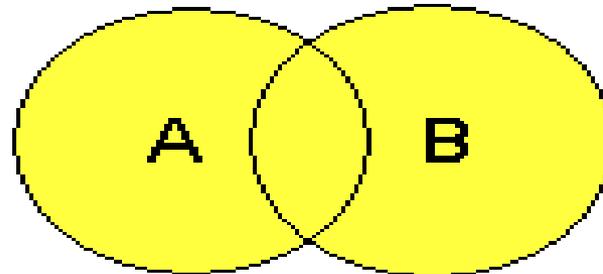
Finding other MeSH using **[Title] NOT [MeSH]** option

- Step 1
 - Pregnancy [title] AND Obesity [title]
- Step 2
 - Pregnancy [MeSH] AND Obesity [MeSH]
- Step 3
 - Step 1 NOT Step 2

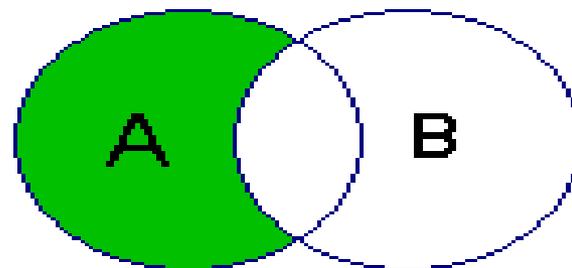
Boolean Search



AND



OR



NOT

View the MeSH terms to see if relevant

1: [South Med J](#). 1989 Oct;82(10):1319-20.

Wolters Kluwer | Lippincott
Williams & Wilkins

Medical care and pregnancy outcome after gastric bypass surgery for obesity.

[Rand CS](#), [Macgregor AM](#).

Publication Types:

- [Letter](#)

MeSH Terms:

- [Communication](#)
- [Female](#)
- [Gastric Bypass*](#)
- [Humans](#)
- [Infant, Low](#)
- [Infant, Newborn](#)
- [Obstetrics*](#)
- [Pregnancy](#)
- [Pregnancy Outcome*](#)
- [Smoking/adverse effects](#)

Links

- ▶ PubMed
- ▶ MeSH
- ▶ Add to Search

MeSH for "Gastric Bypass" [Save Search](#)

[Limits](#) [Preview/Index](#) [History](#) [Clipboard](#) [Details](#)

Suggestions: [Gastric bypass](#), [Bypass, gastric](#), [Gastroileal bypass](#), [Judicial bypass](#), [Gastric bubble](#), [Gastric balloon](#), [Gastric acids](#), [Gastric cancer](#), [More...](#)

Display Show

All: 3

Items 1 - 3 of 3

1: [Gastric Bypass](#)

Surgical procedure in which the STOMACH is transected high on the body. The resulting small portions of the SMALL INTESTINE are reconnected by an end-to-side SURGICAL ANASTOMOSIS, depending on the location of the transection. This procedure is used frequently in the treatment of MORBID OBESITY. *STOMACH; food intake; and food absorption.*

**Obesity [MeSH] OR
Overweight [MeSH]
Overweight [All Fields]
Body Mass Index
BMI [All Fields]
Obese [All Fields]
And other terms.....**

**Pregnancy [MeSH] OR
Maternal Health Services
[MeSH] OR
Childbirth [All Fields] OR
Postpartum period [MeSH]
Childbirth [All Fields] OR
Pregnan* [All Fields]
and other terms.....**

Plot our your search strategy

Search Planning Form

Use this form to identify/clarify the key concepts and the scope of your research topic.
For each section, refer to the guidance notes on the following page for further explanation.

Name: _____

Date search started: _____

Date search completed: _____

1. Your Research Topic

--

2. Consider how the following four categories apply to your research topic

Patient/Population and/or Problem	Intervention	Comparison/Control <i>(if applicable)</i>	Outcomes (or Effects)
Alternative Words			



Different Databases

Different Search Strategies



PubMed/Medline

<http://www.pubmed.gov>

1: [AIDS Educ Prev](#). 2007 Apr;19(2):160-72.

[Related Articles, Links](#)



Social and behavioral determinants of consistent condom use among female commercial sex workers in Ghana.

[Adu-Oppong A](#), [Grimes RM](#), [Ross MW](#), [Risser J](#), [Kessie G](#).

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This study investigated the social and behavioral predictors of consistent condom use among female commercial sex workers (FCSWs) in Ghana. Four hundred fifty street commercial sex workers were interviewed in Accra, Kumasi and Techiman. The level of condom education was very low (14%); however consistent condom use (all the time) with clients was relatively high (49.6%). Two hundred seventy-seven of the participants did not use condoms all the time.

MeSH Terms:

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PMID: 17411418 [PubMed - indexed for MEDLINE]



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Title: Social and behavioral determinants of consistent condom use among female commercial sex workers in Ghana.

Author: Adu-Oppong A; Grimes RM; Ross MW; Risser J; Kessie G

Source: AIDS Education and Prevention. 2007 Apr;19(2):160-172.

Abstract: This study investigated the social and behavioral predictors of consistent condom use among female commercial sex workers in Ghana. Four hundred fifty street commercial sex workers were interviewed in Accra, Kumasi and Techiman. The level of condom use was very low (14%); however consistent condom use (all the time) with clients was relatively high (49.6%). Two-hundred seventy-seven of participants did not use condoms all the time. (author's)

Language: English

Keywords:

[GHANA](#) | [SUMMARY REPORT](#) | [INTERVIEWS](#) | [SEX WORKERS](#) | [CONDOM USE](#) | [EDUCATIONAL STATUS](#) | [BEHAVIOR](#) | [RELIGIOUS FACTORS](#) | [Developing Countries](#) | [Africa, Western](#) | [Africa, Sub-Saharan](#) | [Africa](#) | [Data Collection](#) | [Research Methodology](#) | [Behavior](#) | [Risk Reduction Behavior](#) | [Socioeconomic Status](#) | [Socioeconomic Factors](#) | [Economic Factors](#) | [Sociocultural Factors](#) | [Population Characteristics](#) | [Demographic Factors](#) | [Population](#)

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Social and behavioral determinants of consistent condom use among female workers in Ghana

Adu-Oppong A., Grimes R.M., Ross M.W., Risser J. and Kessie G.

AIDS Education and Prevention 2007 **19:2 (160-172)**

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This study investigated the social and behavioral predictors of consistent condom use among female workers (FCSWs) in Ghana. Four hundred fifty street commercial sex workers were interviewed in Accra. The level of condom education was very low (14%); however consistent condom use (all clients) was relatively high (49.6%). Two hundred seventy-seven of the participants did not use condoms. 2007 The Guilford Press.

Associated Links

Other works by authors of this record

[Adu-Oppong A.](#), [Grimes R.M.](#), [Ross M.W.](#), [Risser J.](#), [Kessie G.](#)

EMTREE drug index terms

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Where this term is the major focus: [condom](#), [sexual behavior](#)

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Author(s): [Adu-Oppong A](#) (Adu-Oppong, Ahmed), [Grimes RM](#) (Grimes, Richard M.), [Ross MW](#) (Ross, Michael W.), [Risser J](#) (Risser, Jan), [Kessie G](#) (Kessie, Gladstone)

Source: AIDS EDUCATION AND PREVENTION **Volume:** 19 **Issue:** 2 **Pages:** 160-172 **Published:** 2007

Times Cited: 0 **References:** 31

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Document Type: Article

Language: English

KeyWords Plus: HIV-INFECTION; PREGNANT-WOMEN; **LATEX CONDOM;** RISK; PREVALENCE; TRANSMISSION; PREDICTORS; TANZANIA; DECLINE; SPREAD

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Social and behavioral determinants of consistent condom use among female commercial sex workers

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✉ aaduoppong@georgiasouthern.edu;

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CABICODE

- UU485 - Social Psychology and Social Anthropology, (New March 2000)
- UU500 - Women
- VV065 - Human Sexual and Reproductive Health, (New March 2000)
- VV210 - Prion, Viral, Bacterial and Fungal Pathogens of Humans, (New March 2000)

Descriptor

- Attitudes
- Disease prevention
- HIV infections
- Prostitutes
- Safer sex
- Women
- Condoms
- Education
- Human diseases
- Risk behaviour
- Sexual behaviour



Syntax of Searching

All Medline different Interfaces

- **PubMed – Medline**

- Ghana AND Condom AND utilization

- **OVID – Medline**

- exp ghana/ and condom/ut

- **BIREME - Medline**

- Ghana condom

Electronic Databases are not the only way to identify studies

1. Electronic databases
2. Checking reference lists
3. Print indexes
4. Hand searching
5. Identifying unpublished studies
6. Personal communication



Checking reference lists

Following up references from one article to another

Looking for previous reviews of the topic and checking their reference lists

Efficient means of identifying studies for possible inclusion in a review

Reference lists should never be used as a sole approach to identifying reports for a review (because of publication bias)

HAND SEARCHING

- **Definition:**
- **Hand searching involves a manual page-by-page examination of the entire contents of a journal issue to identify all eligible reports of trials.**

Why the need for hand searching

- Journals not indexed in databases or in print indexes
- Journals are not well indexed
 - Studies have shown that RCTs are not always properly indexed as RCTs, obvious concepts are missed in the indexing, lack of abstracts and title may not reflect clearly the topic of the article
- Journals ceased to be indexed or various other reasons
- Time delays in indexing of journals.

Identifying unpublished studies

What Is Grey Literature?

Literature that is not widely published

- Dissertations
- Theses
- Government reports
- Ongoing studies
- etc...

Clinical Trial sites

- WHO International Clinical Trials Registry
 - <http://www.who.int/trialsearch/>
- TrialsCentral
 - www.trialscentral.org
- Current Controlled Trials
 - www.controlled-trials.com
- clinicaltrials.gov (by NLM)
 - www.clinicaltrials.gov

WHO International Clinical Trials Registry



World Health
Organization

INTERNATIONAL CLINICAL TRIALS REGISTRY PLATFORM SEARCH PORTAL

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 [Search tips](#)

Welcome

- The Search Portal is a web site that enables users to search a central database that contains the trial registration data sets provided by Primary Registers.
- When a user finds a trial on the Search Portal that they are interested in, they can learn more about the trial by clicking on a link that will take them to the relevant record in the source register.
- New users are advised to read the Search Tips before commencing their search.
- The Search Portal is not a clinical trials register.
- No attempt is made to identify and tag trials that may have been registered on more than one register.

Data Sources

- Australian New Zealand Clinical Trials Registry, last data file imported on **8 April 2008**
- ClinicalTrials.gov, last data file imported on **8 April 2008**
- ISRCTN, last data file imported on **8 April 2008**

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clinicaltrials.gov

- By NLM
- Provides regularly updated information about federally and privately supported clinical research in human volunteers.
- *ClinicalTrials.gov* gives you information about a trial's purpose, who may participate, locations, and phone numbers for more details

www.clinicaltrials.gov

ClinicalTrials.gov

A service of the National Institutes of Health
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ClinicalTrials.gov provides regularly updated information about federally and privately supported clinical research in human volunteers. *ClinicalTrials.gov* gives you information about a trial's purpose, who may participate, locations, and phone numbers for more details. Before searching, you may want to learn more about [clinical trials](#).

Search Clinical Trials

Example: heart attack, Los Angeles

Search

[Tips](#)

Search by Specific Information

[Focused Search](#) - search by disease, location, treatment, sponsor...

Browse

[Browse by Condition](#) - studies listed by disease or condition

[Browse by Sponsor](#) - studies listed by funding organization

Resource Information

[Understanding Clinical Trials](#) - information explaining and describing clinical trials

[What's New](#) - studies in the news

[MEDLINEplus](#) - authoritative consumer health information

[Genetics Home Reference](#) - consumer information about genes and genetic conditions

[NIH Health Information](#) - research supported by the National Institutes of Health

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OpenSIGLE

System for Information on Grey Literature in Europe

<http://opensigle.inist.fr/>

- OpenSIGLE combines the resources of major European information and document supply centres who joined in an association known as EAGLE : European Association for Grey Literature Exploitation.
- Each centre was responsible for collecting grey literature produced in its own country and for providing details of it

Strategic Searching of the Internet

- Search Internet using
 - Key researchers / authors with a few select terms.
 - Search titles of journal articles in quotation marks
 - Search key stakeholders names with a few select terms
 - Search in-depth the websites of the key stakeholders
 - ** Do not rely only on the web site search engine.
 - Use the equivalent to WHO's Health Topics, Look for publications database such as WHOLIS

Tracking on the Internet

Taking Article Titles into a Search Engine

PubMed for "pregnancy complications" [major] AND obesity [ma] Go Clear [Save Search](#)

Limits Preview/Index History Clipboard Details

Display Summary Show 20 Sort By Send to

All: 4 Review: 1 ✕

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1: [Dresner M, Brocklesby J, Bamber J.](#) Related #
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BJOG. 2006 Oct;113(10):1178-81.
PMID: 16972861 [PubMed - indexed for MEDLINE]

2: [Krishnamoorthy U, Schram CM, Hill SR.](#) Related #
 Maternal obesity in pregnancy. Is it time for meaningful research to inform preventive and management strategies?
BJOG. 2006 Oct;113(10):1134-40. Review.
PMID: 16972858 [PubMed - indexed for MEDLINE]

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... 15890076 10.1186/1475-2891-4-17 **Maternal obesity in pregnancy: Is it time for meaningful research to inform preventive and management strategies? ...**

[www.biomedcentral.com/content/download/xml/1471-2393-7-9.xml](#) - 160k -

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- What is covered? How do we know what is covered?
- At present, limited subset of scholarly literature.
- It is large, but it's only a small fraction of what's available.
- What journals and databases are covered? How far back? Can not browse journals
- Beta version – growing and has a great potential
- See examples in next few slides
- Mixture of Humanities and Social Sciences covered but mainly science and technology

Some conclusions about Google Scholar

- Google Scholar is a Beta version
- Improvement and better features are expected
- Quick and easy to search
- Useful research tool
- Depending on your information need, select your resource
- Valuable supplement but certainly not a substitute
- More important than ever that researchers know how to search effectively and think critically



Identifying unpublished studies

- **Sources :**

- Colleagues
- Web sites
- Informal channels of communication
- Formal letters
 - sending a list of relevant articles asking if they know of any additional studies (published or unpublished) that might be relevant
 - send the same letter to other experts or others with an interest in the area

Personal communication

- ❖ To know of studies you haven't yet found:
 - Reviewers send a list of the studies they have found to the authors of those studies, asking if they are aware of any other relevant studies.
 - Or write to the manufacturers of relevant drugs or devices and ask if they are aware of any other studies.

Reporting of Search Strategy based on

Meta-analysis of observational studies in epidemiology: a proposal for reporting
<http://jama.ama-assn.org/cgi/reprint/283/15/2008>

- Qualifications of searchers
- Search strategy
- Effort to include all available studies
- Search Software
- Use of Hand Searching
- List of Citations found
- Method of addressing non-English studies
- Handling of unpublished literature
- Description of any contact with authors.



Keeping track of identified studies

- You may find several reports of the same study
- You may find the same report of a study in several databases.

Keeping track of identified studies

- So we need:
 - Some way of **keeping track of the references** we've looked at.
 - Some way of **grouping together all the reports** of a single study.
 - Also we might like to **keep a record of where you found each study**, so that you can report how useful different sources were.

Keeping track of identified studies

- Some people use reference management software to do all this
 - Reference Manager
 - EndNote EndNoteWeb (<http://www.myendnoteweb.com>)
 - ProCite
 - Others are also available (Open Source) See the site BIBLIOPHILE <http://bibliophile.sourceforge.net/projects.php>
 - One example is
 - WIKINDX – <http://wikindx.sourceforge.net/index2.html>
 - See following for overview
 - http://en.wikipedia.org/wiki/Comparison_of_reference_management_software

Plot our your search strategy

Search Planning Form

Use this form to identify/clarify the key concepts and the scope of your research topic.
For each section, refer to the guidance notes on the following page for further explanation.

Name: _____

Date search started: _____

Date search completed: _____

1. Your Research Topic

--

2. Consider how the following four categories apply to your research topic

Patient/Population and/or Problem	Intervention	Comparison/Control <i>(if applicable)</i>	Outcomes (or Effects)
Alternative Words			

