FINDING INFORMATION AND EVIDENCE: THE SYSTEMATIC REVIEW

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What we will cover in this session:

- What is a systematic review?
- Where do I find systematic reviews?
- Documenting your search
- **Sources**
- Systematic Review databases
- Journal databases available in the library
- Searching the databases – best practice
- Beyond the databases: Finding grey literature
- **Evaluating the information**
What is a systematic review?

“A systematic review is a critical assessment and evaluation of all research studies that address a particular issue”.

- Your search should be explicit and transparent so that it can be replicated by readers of your review.
- You must be able to show that you have rigorously searched all the available sources to uncover all the relevant research.
- It is easier to conduct a systematic review if you are methodical about it.

http://effectivehealthcare.ahrq.gov/index.cfm/glossary-of-terms/?pageaction=showterm&termid=70
Where do I find systematic reviews?

Initially, you want to make sure that there has not been a systematic review published on your chosen topic within the last five or ten years.

Systematic reviews are published on

- The Cochrane Library (Health Care)
  
  http://www.cochranelibrary.com

- The Campbell Library (Social Interventions)
  
  https://www.campbellcollaboration.org/library.html

- Emerald Insight (Business and Management)
  
  https://0-www-emeraldinsight-com.lispac.lsbu.ac.uk/

- The EPPI Centre (Health Promotion)
  
  https://eppi.ioe.ac.uk/cms
Where will I look for evidence for my review?

- When doing a systematic review, it is important to search **ALL** databases that may index relevant published research.
- You may need to cover databases in nursing, business, education, social sciences, psychology... depending on your subject.
- Unpublished research - databases or web.
- Policy – national and local government websites
How to write up your search strategy

- Your search history should contain a statement of:
  - The databases you searched;
  - The keywords and subject headings you used in your search;
  - How you combined them;
  - Number of “hits”;
  - Any limits you applied.

Most systematic reviews provide examples of search strategies.
This search history is from CINAHL

<table>
<thead>
<tr>
<th>Search ID#</th>
<th>Search Terms</th>
<th>Search Options</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>S3</td>
<td>S1 and S2</td>
<td>Search modes - Find all my search terms</td>
<td>View Results (2)</td>
</tr>
<tr>
<td>S2</td>
<td>(MH &quot;Patient Compliance&quot;)</td>
<td>Search modes - Find all my search terms</td>
<td>View Results (22543)</td>
</tr>
<tr>
<td>S1</td>
<td>&quot;active cycle of breathing&quot;</td>
<td>Search modes - Find all my search terms</td>
<td>View Results (25)</td>
</tr>
</tbody>
</table>
Search in CINAHL:

- Either:
  - “Active cycle of breathing” AND MH (Patient compliance +) = 2

- Or:
  - I searched CINAHL using the keyword “Active cycle of breathing”.
  - I combined this with the subject heading “Patient compliance” (expanded to include sub-headings).
  - This gave me 2 hits.
Tips:

■ Keep a list of the databases and keywords you used.

■ Many databases allow you to save or print your search history – this enables you to recap the stages of your search.

■ Set up an account with the database provider: for example, an EBSCO account allows you to save your search history so you can re-run the search at any time. This is separate from your LSBU Library account.
What is a database?

- A database is an index of literature published in journals.
- Each database will cover a particular aspect of the literature of a subject, so there are many different ones to consider.
- You will need to search a number of resources to be sure of finding the right material.
A selection of databases available through the Library webpage:

- CINAHL
- British Nursing Index
- Medline
- AMED
- Maternity & Infant Care
- SocIndex
- Social Care Online
- Business Source Complete
- DOAJ
- Social Policy Digest
- SportDiscus
- OTDBase
- OT Seeker
- TRIP
- PsycInfo
- PsycARTICLES
- Cochrane Library
- Academic Source Complete
- Science Direct
- Scopus

Further relevant databases may be found by going to the subject pages for the different schools.
Some observations...

- **DO NOT ASSUME THAT YOU WILL GET A LINK TO THE FULL TEXT OF YOUR ARTICLE!**

- Most databases will give a list of titles and abstracts that match your search terms.

- You will only get the full-text:

  \[
  \textit{If the library subscribes to the journal it was printed in.} \\
  \textit{OR} \\
  \textit{If it is available freely on the web.}
  \]
Help in obtaining material

- Ask at the library helpdesk for information about other libraries you can use.
- We can obtain copies of journal articles, books and theses from the British Library – click on the Interlibrary Loans link in the library section of My LSBU to make a request: [https://my.lsbu.ac.uk/page/library-inter-library-loans](https://my.lsbu.ac.uk/page/library-inter-library-loans)
- Allow 10-14 days for us to obtain the articles.
SEARCHING DATABASES: BEST PRACTICE
Keywords

- These are the concepts that you want to search for.
- Before you start to search, use your search profile to write down the keywords you will use.
- You may find it helpful to use a mind map, or think of your topic in terms of a PICO question.
  - **P**  *Patient/population*
  - **I**  *Intervention*
  - **C**  *Comparison intervention*
  - **O**  *Outcome*
You may also want to think about:

- Synonyms (e.g. Teenagers/Adolescents/Young people).

- Broader and narrower terms e.g. Industries, Manufacturing, Companies.

- Ways of limiting your search - to research conducted within the last 5 years? To studies done in the U.K.? To a particular ethnographic group e.g. black teenagers?
Choose your own search topic for this exercise

Use the handout called ‘Researching your SR’ and fill it in:

- Define the subject of your search.
- What keywords can you use including alternative terms?
- Think of broader and narrower terms.
- What limits do you possibly want to set?
- What databases would you use to search your topic systematically?
Boolean Logic

Named after George Boole (1815 – 1864), a mathematician and author of ‘The Laws of Thought’ which included the concept of Boolean Operators.
Boolean operators

A method of combining concepts, utilized by catalogues, databases, and online search tools, that allows searchers precision in their research.

AND NOT OR
Boolean operators: AND

Narrows your search query = Fewer results
Boolean operators: OR

Expands your search query

= More results
Boolean Logic: NOT

Narrows your search query =

Fewer results
Key words and subject headings

- Two different ways of searching.

  - *Keywords (or free text searching):* the database software will search for all occurrences of a word within a record.
  
  - *Subject headings:* using these enables you to search for articles about the subject.

*Not all databases offer both these methods. If they do, you may need to try both for the best results.*
Truncation

- Truncation means you can shorten a word to its stem and save yourself a lot of typing e.g. “Child*” will find child, children, childhood etc.

- Truncation symbols vary from database to database – check the help pages.
Wild cards

- Wild cards replace one or more characters in the middle of a word e.g. “wom#n” will find “woman or women”; behavi#r” finds both English and American spellings.

- Again, these will be different in different resources.
Stop words

- Stop words: these are words which are so common that they will not be searched for e.g “the”, “an”, “through” etc.

- It’s usually possible to force a search for these words if necessary – check the help pages.
Some observations...

- Match your search to the database - you do not need to use “Business” as a keyword in ‘Business Source Complete’ as it specialises in Business literature; however you would in Westlaw, which covers legal journals.

- Use the library help sheets or the help provided within the database for advanced searching.
Discuss the effects of poor leadership on the financial performance of businesses

<table>
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<td>Poor leadership</td>
<td>Poor management OR Poor motivation</td>
</tr>
<tr>
<td>Finance</td>
<td>Accounts OR Profits OR Dividends</td>
</tr>
<tr>
<td>Businesses</td>
<td>Business OR organisations OR industry</td>
</tr>
</tbody>
</table>
Database searching: search tips applied

- **Truncation**: * e.g. manag* will find manage, management, managing etc.

- **Phrase searching**: "" e.g. “pain relief”

- **OR** for alternative terms (synonyms) e.g. “pain relief” OR analgesia -> increases the number of results

- **AND** to connect words with different meanings, e.g. elderly AND palliative -> decreases the number of results
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• Using subject headings enables you to search for articles *about* the subject. It is therefore a more contextualised way of searching than free text searching.
• Subject headings / thesaurus terms are different for each database.
• You will therefore have to search each database separately if you use thesaurus terms.
• You can think of accessing a database’s thesaurus as accessing the in-built dictionary of the database.
Subject headings / thesaurus

• If you find an appropriate subject heading, it is often worthwhile to click on it, as you will then see other related subject headings which you can choose from.

• Sometimes a scope note for the heading is available. A scope note details what it covers and in what contexts it is used.

• You can also sometimes explode a subject heading. This means that you will search for this subject heading and all the more narrow headings that are listed for it.

• If you decide to do a major descriptor search, you search for the subject heading as the main topic in your article.
Keywords and subject headings

- You can do a combined search by searching each concept, e.g. end of life, separately using keywords on the one hand and thesaurus terms on the other hand. You can then combine the results for each of these two searches with **OR**.
- You do the same for your remaining concepts, e.g. analgesia etc.
- At the end you will have to combine your search results (combined keywords and subject search) for the different concepts with **AND**.
Searching the databases

- Go back to your search profile and add some search tips such as truncation.

- Write down the connecting words / Booleans you want to use to combine certain words.

- Implement your search strategy by searching on one of the most relevant databases for your topic.
Beyond the databases – finding grey literature etc.
Beyond the databases

- Savoie et al (2003) estimated that 29.2% of items in their review were uncovered by:
  - searching the web
  - handsearching
  - scanning reference lists
  - personal communication
  - searching specialised databases and web sites.

“Grey” literature

- This includes items such as:
  - Conference papers
  - Theses and other unpublished research
  - Clinical guidelines
  - Internal reports
  - Government papers
  - Contributions to mailing lists
  - Blog entries
Finding “grey” literature

- There are established methods of finding some items e.g. the database “Global ETD Search” covers theses from around the world that are available electronically.

- You can also search the British Library’s repository of theses, ETHOS: ETHOS (http://ethos.bl.uk). Some may be freely downloaded; others may incur a charge.
Finding “grey” literature

- NIHR Portfolio Database – this is an archive of current and completed clinical research projects in the healthcare field. ([https://www.ukctg.nihr.ac.uk/](https://www.ukctg.nihr.ac.uk/))

- Cochrane, Emerald Insight and DARE, also contain some reviews which are in process.
Finding “grey” literature

- Some databases also cover grey literature, e.g. CINAHL contains some dissertations (mostly from the U.S.A.).

- The Internet may be the best source for tracking down this material, as much is available to download. You may also be able to find contact details for the authors of research.
ZETOC

- This is a database which enables you to search the British Library's Electronic Table of Contents, consisting of around 20,000 current journals and around 16,000 conference proceedings published per year.

- You can search for your topic in the database or set up an alert to be sent the contents of particular journals.

- Some of the journals may be available from LSBU libraries. If not, you will need to apply for an Inter-Library Loan.
Searching the Internet

- Using Google and other search engines is fine if you use your judgement:
  - If you know the title of a report search for it as a phrase e.g. “Children and Healthy Eating”
  - Use the advanced search capability
  - Always evaluate the resources you find – who wrote it and when? Is there a hidden agenda?
Using Google Scholar

When searching on campus, you are able to access articles that are part of Library subscriptions, through Google Scholar.

When off campus, you will need to set this up manually:
• Go to scholar.google.co.uk
• Click on Settings
• Click Library Links in the left column
• Search for LSBU
• Select London South Bank University – Full-Text@LSBU
REVIEWING THE RESEARCH
Which literature will you use?

- Never attempt to review research where you only have an abstract!

- Establish your topic clearly – this may be the time to go back over your search strategy and exclude certain articles – for example, if you have found a Cochrane review on your topic you may wish to search research published after it.

- Get to know the literature you have found so that you know how relevant it is to your subject.
Critical Appraisal

• Critical Appraisal is an essential part of the systematic review.

• “The structured process of examining a piece of research to determine its strengths and limitations” (Aveyard, p.93)

• Use critical appraisal tools to help with this process.
Looking at some (other) quality criteria

Objectives

The objective of this review was to assess the effects of water compared with other solutions for wound cleansing.
Specific Critical Appraisal Tools

- CASP (Critical Appraisal Skills Programme): http://www.casp-uk.net/#!casp-tools-checklists/c18f8

- CEBM (Centre for Evidence Based Medicine): http://www.cebm.net/critical-appraisal

- Many books on research will also include (specific) critical appraisal tools.
For more help:


Contact us

For help with finding or evaluating information and for referencing support:
Email your library team for 1:1 advice

or

Visit the Research Help desk on level 3 bridge between 11.00am and 4.30pm (Mon – Fri) during term-time.

For general enquiries regarding your library account:
Email: library@lsbu.ac.uk
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Thanks for Listening!

Any Questions?