LEARNING OBJECTIVES

After this session you should be able to:

1. Understand the process of completing a systematic review
2. Formulate the question(s)
3. Search for systematic review already completed on your research question
4. Develop a search strategy to conduct a search (based on the demo topic)

This session will help you in both NUR4101 (EVIDENCE-BASED HEALTH CARE PRACTICE) as well as for your Final Year Project if you are going to do a systematic review topic.
WHAT IS A SYSTEMATIC REVIEW?

A systematic review attempts to gather all the empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question.

It uses explicit, systematic methods that are selected with a view to minimizing bias, thus providing more reliable findings from which conclusions can be drawn and decisions made.

Ms. Lindsey Sikora
University of Ottawa, Canada

Introduction to systematic reviews for librarians
Ms. Lindsey Sikora – University of Ottawa, Canada
STEPS IN A SYSTEMATIC REVIEW

1. Search for systematic review already completed on your research question
2. Produce a review protocol
3. Assemble a review group
4. Formulate the question(s)
5. Conduct a thorough search
6. Select relevant studies
7. Appraise the quality of studies
8. Extract info from individual studies
9. Synthesise studies
10. Report what is known and not known
11. Inform research, policy and practice
LEARNING OBJECTIVES

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## FORMULATE THE QUESTION

<table>
<thead>
<tr>
<th>P</th>
<th>Patient, Population, or Problem</th>
<th>How would I describe a group of patients similar to mine?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Intervention, Prognostic Factor, or Exposure</td>
<td>Which main intervention, prognostic factor, or exposure am I considering?</td>
</tr>
<tr>
<td>C</td>
<td>Comparison or Intervention (if appropriate)</td>
<td>What is the main alternative to compare with the intervention?</td>
</tr>
<tr>
<td>O</td>
<td>Outcome you would like to measure or achieve</td>
<td>What can I hope to accomplish, measure, improve, or affect?</td>
</tr>
<tr>
<td>(T)</td>
<td>What type of question are you asking?</td>
<td>What can I hope to accomplish, measure, improve or affect?</td>
</tr>
<tr>
<td>(S)</td>
<td>What type of study do you want to find?</td>
<td>What would be the best study design/methodology?</td>
</tr>
</tbody>
</table>
CASE STUDY: FORMULATE A QUESTION

Key points to consider when choosing a research topic:

- Selecting an area of interest or one related to practice
- **Deciding on a focused question that will give rise to an answer**
- Identifying why the topic is interesting and worthwhile investigating
- Assessing the significance of the answer
CASE STUDY: FORMULATE A QUESTION

As a pediatric nurse, you receive a telephone call from a new mother of a 3-month-old infant who states that her infant cries frequently while breastfeeding. Upon obtaining a brief history, you discover that this mother has been experiencing pain in her nipples since she started breastfeeding. The infant is gaining weight steadily, saturating her diaper at least six times per day, and is developing normally. The mother tells you that she believes it would be best for her infant to discontinue breastfeeding. To encourage her to continue breastfeeding, you want to provide her with the evidence-based advice on the treatment options available to cope with nipple pain.

QUIZ 3: HOW TO FORMULATE A QUESTION

Which of the questions is a focused, answerable one?

A. Why does a new mother have nipple pain?
B. What can a nurse do to encourage a new mother to continue breastfeeding?
C. What are the interventions for treating painful nipples among breastfeeding women?
FORMULATE THE QUESTION

P : Population
I : Intervention (or treatment)
C: Comparison (standard intervention; optional)
O: Outcome
Preventing childhood obesity in Asia: an overview of intervention programmes.

Uijtdewilligen L, Waters CN, Müller-Riemenschneider F, Lim YW.

Abstract
The rapid economic growth in Asia in the past few decades has contributed to the global increase in childhood obesity prevalence. Yet, little is known about obesity prevention efforts in this region. This systematic review provides an overview of child obesity prevention programmes in Asia. Searches were performed in six electronic databases. Out of 4,234 studies, 17 were included, among them 11 controlled trials (of which five were randomized). Only one study was published before 2007. Identified studies were predominantly conducted in China and Thailand and targeted primary school children in a school setting. Most studies implemented different programmes, frequently targeting behavioural modification through nutrition/health education lectures and/or physical activity sessions. Programme effects related to obesity outcome measures were mixed. Most substantial effects were found for outcomes such as improved health knowledge and/or favourable lifestyle practices. The relatively small number of relevant publications in Asia highlights the need for scientific evaluations of existing and future programmes. This will help ensure the implementation and dissemination of evidence-based approaches that have been proven to be effective in the Asian context. Targeting preschool settings and applying a comprehensive multisectoral approach may increase the effectiveness and sustainability of childhood obesity prevention programmes.

© 2016 World Obesity.

KEYWORDS: Asia; intervention programmes; obesity prevention; youth

Please work in PAIRS!
LEARNING OBJECTIVES

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SEARCH FOR A SYSTEMATIC REVIEW/SCOPING

Hands-on practice:

1. Cochrane
2. PubMed clinical queries
3. Google Scholar

To find out why and how to search for a systematic review!

- Can be conducted quite quickly
- Can be based on a simple search strategy
QUESTIONS DURING SCOPING

1. Is there a recent review in your research area?
2. Can you explore different angles on your topic?
3. Can you update an outdated systematic review?
4. Are there any similar/alternative search terms you can use?
   - Check out Cochrane
   - Check out PubMed (e.g. Clinical Queries)
   - Check out Google Scholar (Optional)
EXAMPLE QUESTION:
DOES THE APPLICATION OF A TOPICAL ANAESTHETIC APPLIED ON THE SKIN REDUCE PAIN IN NEWBORN INFANTS WHO REQUIRE A PROCEDURE THAT PUNCTURES THE SKIN?

\[ P = \text{newborn term or preterm infants requiring an invasive procedure involving puncture of skin and other tissues with a needle} \]

\[ I = \text{Eutectic mixture of local anaesthetics (EMLA) and amethocaine} \]

\[ C = \text{no treatment or placebo} \]

\[ O = \text{Reduced pain} \]
SCOPING IN COCHRANE/PUBMED

Search for articles on the topic of interest

Judge if there is sufficient primary articles on the topic

Select and apply left-column filter for “systematic reviews” to identify existing SRs

Perform scoping by visually surveying the results (sort by “best match”)

Adopt and adapt the search strategies of relevant SRs
SCOPING IN COCHRANE

Cochrane Library

Search
Title, Abstract, Keywords
Search Manager
EMLA
Medical Terms (MeSH)
(Word variations have been searched)
Browse
Go
Save
Add to Search Manager

Cochrane Database of Systematic Reviews: Issue 3 of 12, March 2018

Issue updated daily throughout month

There are 8 results from 10228 records for your search on ‘EMLA in Title, Abstract, Keywords in Cochrane Reviews’

Sort by: Relevance: high to low

Select all  |  Export all  |  Export selected

- Pain relief for neonatal circumcision
  Barbara Brady-Fryer, Natasha Wiebe and Janice A Lander
  Online Publication Date: July 2004

Review
More information on how did PubMed Clinical Queries retrieve Systematic Reviews:
https://www.nlm.nih.gov/pubs/techbull/jf02/jf02_systematic_reviews.html
SCOPING IN GOOGLE SCHOLAR

Optional

- To supplement your scoping search in Cochrane and PubMed
- For very niche or obscure topics
- Where few or insufficient results are found

Search for existing SRs on the topic of interest AND “systematic review*” in search box

12 important tips to get precise Google search results
Evidence for interventions to prevent and control obesity among children and adolescents: its applicability to India.

Sreevatsava M¹, Narayan KM, Cunningham SA.

Abstract
Childhood obesity is on the rise worldwide and its increasing prevalence in low and middle income countries is well-known. Obesity interventions have the potential to prevent adverse health outcomes; however, large gaps in research and knowledge about the efficacy and sustainability of such interventions remain. The objectives of this article were to review the evidence for interventions to prevent and control obesity among children and adolescents, evaluate their applicability in India, and discuss the challenges to sustain such interventions. The authors reviewed published research focusing on childhood obesity interventions, especially in India and other lower-resource countries. Nine observational and 10 interventional studies were reviewed. Most studies identified were from developed countries and took place at day-care settings, schools, and after school programs. Nineteen reported studies were grouped into categories: diet (2), physical activity (4), childcare programs (2), media-based programs (2), parental involvement (2), multi-component studies (1), and screen time (6). Most interventions were effective in reducing BMI, decreasing sedentary behaviors, and increasing physical activity. Sustainability of these interventions was not evaluated. While there is no one method or simple intervention to address obesity, multi-component approaches involving home and school environments are promising and warrant evaluation in India. Literature on obesity prevention and control in India and in lower-resource countries, however, is sparse. Existing gaps in knowledge about obesity should be addressed by conducting research in India and carrying out interventions to determine what strategies will be successful and sustainable locally.
Search methodology


Abstract

BACKGROUND: Overweight/obesity is a serious public health problem that affects a large part of the world population across all age and racial/ethnic groups. However, there has not been a meta-analysis of the prevalence of childhood and adolescent overweight/obesity in China during the past 30 years.

METHODS: The China National Knowledge Infrastructure and Wanfang DATA, MEDLINE, EMBASE and Cumulative Index to Nursing and Allied Health Literature were searched for relevant studies published between January 1970 and June 2012. The prevalence of overweight/obesity over time was pooled using Stata/SE, version 9. Summary statistics (odds ratios, ORs) were used to compare sex-specific and urban-rural preponderance of overweight/obesity using Review Manager.

RESULTS: After screening 1326 papers, we included 35 papers (41 studies), most of medium quality. The prevalence of overweight/obesity increased from 1.8% (95% confidence interval [CI], 0.4%-3.1%) and 0.4% (95% CI, -0.1% to -0.8%) respectively in 1981-1985 to 13.1% (95% CI, 11.2%-15.0%) and 7.5% (95% CI, 6.6%-8.4%) respectively in 2006-2010. The average annual increase was 8.3% and 12.4% respectively. Boys were more likely to be overweight/obese than girls (OR, 1.36; 95% CI, 1.24-1.49 and OR, 1.68; 95% CI, 1.52-1.86 respectively). The prevalence of overweight/obesity was higher in urban areas than in rural areas (OR, 1.66; 95% CI, 1.54-1.79 and OR, 1.97; 95% CI, 1.68-2.30 respectively). For age-specific subgroup analyses, both overweight and obesity increased more rapidly in the toddler stage than in other developmental stages. Sensitivity analyses showed that sample-size differences, study quality, overweight/obesity criteria and geographical distribution affected overweight/obesity prevalence.

CONCLUSIONS: Toddlers and urban boys were at particularly high risk; the prevalence in these groups increased more rapidly than in their counterparts. Public health prevention strategies are urgently needed to modify health behaviors of children and adolescents and control overweight/obesity in China.
LEARNING OBJECTIVES

After this session you should be able to:

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STEPS IN A COMPREHENSIVE LITERATURE SEARCH

Initial search
- Database selection / Trial registries
- Grey literature
- Bibliographies
- Hand searches
  - Major journals, Conference proceedings

Supplemental search
- Citation searches, contact individual researchers,
- Snowball searches (all included studies, review papers)

15. Steps in a comprehensive literature search
16. Selection of sources
17. Developing a search strategy
18. Search filters/hedges
19. Peer review of the search strategy
20. Grey literature
21. Citation searching
DEVELOPING A SEARCH STRATEGY

Subject Headings
- Explode?

Keywords (text words)
- Truncation, synonyms, alternative spelling

Boolean operators

Limits
- Dates, languages, publication types, etc.

Field searching
- Title, abstract, floating subject headings
SEARCH USING SUBJECT HEADINGS AND KEYWORDS

Keywords (from full-text and added by the author)

Mesh / Emtree terms (added by the indexer)

OR

All articles on that concept
Subject Heading

Use the database specific indexing:

- **MeSH** (Pubmed, Cochrane)
- **EMTREE** (Embase)
- **CINAHL headings** (CINAHL)

[Video on subject headings]
 Pediatric Obesity

BODY MASS INDEX in children (ages 2-12) and in adolescents (ages 13-18) that is grossly above the recommended cut-off for a specific age and sex. For infants less than 2 years of age, obesity is determined based on standard weight-for-length percentile measures.

Year introduced: 2014

Entry Terms:
- Obesity, Pediatric
- Adolescent Obesity
- Obesity, Adolescent
- Obesity in Adolescence
- Infantile Obesity
- Obesity, Infantile
- Child Obesity
- Obesity, Child
- Childhood Onset Obesity
- Obesity, Childhood Onset
- Onset Obesity, Childhood
- Obesity in Childhood
- Infant Obesity
- Obesity, Infant
- Childhood Obesity
- Obesity, Childhood
**BOOLEAN OPERATORS**

**OR** retrieves records containing either one or both terms within one concept → more results  
*E.g.* obese **OR** overweight

**AND** retrieves records containing both terms across concepts → fewer results  
*E.g.* childhood **AND** obesity

**NOT** excludes records containing the second term → Use with caution
**PICO EXAMPLE**

- **P**: overweight and obesity adolescent
- **I**: obesity internet-based self-monitoring interventions
- **C**: none specified
- **O**: BMI and BMI z-score at post-intervention

**Journal**: Journal of Adolescent Health

**Title**: Internet-based self-monitoring interventions for overweight and obesity in adolescents: A systematic review and meta-analysis

**Corresponding Author**: Ying LAU

**Co-Authors**: Jian Hui HO, BSN (Hons); Ching Siang LEE, MS; Suei Nee WONG, MSc;

(adolescent OR teenage)

**AND**

(overweight OR obesity) **AND** (web-based)
PICO EXAMPLE

- **P:** overweight and obesity adolescent
- **I:** obesity internet-based self-monitoring interventions
- **C:** none specified
- **O:** BMI and BMI z-score at post-intervention

(adolescent OR teenage OR youth OR young)

AND

(obesity OR overweight OR adipose OR BMI) AND (web-based OR computer-assisted OR telemedicine OR ehealth)
EXAMPLE: SEARCH STRATEGY

("Adolescent"[Mesh] OR "Young Adult"[Mesh]) OR adolescen*[Title/Abstract] OR teenage*[Title/Abstract] OR young[Title/Abstract] OR student*[Title/Abstract] OR juvenile[Title/Abstract] OR school*[Title/Abstract] OR kid[Title/Abstract] OR kids[Title/Abstract] OR youth[Title/Abstract] OR underage[Title/Abstract]

AND


AND

FIND THE EVIDENCE

1. Identify key sources (e.g. databases)
2. Construct preliminary search strategy
3. Adapt search strategy to different databases
4. Document your search (Where, how and when)
A LIST OF RESOURCES

Please refer to more information on LibGuide

Database syntax guide for PubMed, Embase and Cochrane

Cochrane
- Browsing and Searching
- Using MeSH and Search Manager

Pubmed
- Tutorials on PubMed

EMBASE
- Systematic searching in EMBASE

CINAHL
- Basic searching tutorial
- Advanced searching tutorial

PsycINFO
- Searching in PsycINFO
EXPORTING SEARCH RESULTS DIFFERENT DATABASES

PubMed
https://youtu.be/mdwpSSNyGOk

Embase
https://youtu.be/VcJpb0YztkA

Scopus
https://youtu.be/alwH-ENkHIQ

Cochrane
https://youtu.be/QHXWaAZZBqE

CINAHL
https://youtu.be/KWc-G_FlkFQ

Psycinfo
https://youtu.be/4qEh0HsBQQs

Library Subject Guide
http://libguides.nus.edu.sg/c.php?g=145503&p=953994
433 records identified
Cochrane (n=56), CINAHL (n=20), EMBASE (n=208), PubMed (n=35), PsycINFO (n=1), Scopus (n=35) and ProQuest Dissertations and Theses (n=78)

5 additional records identified from reference lists

37 records were curated using ENDNOTE program to remove duplicates

401 articles found for screening

Reasons for 331 records exclusion:
- Irrelevant based on title (n=149)
- Irrelevant based on abstract (n=182)

Reasons for 56 full-text articles exclusion:
- Non-experimental studies (n=8)
- Protocols (n=5)
- Non-diabetic perinatal women (n=8)
- No application of technology (n=8)
- No self-monitoring component (n=8)
- Qualitative outcomes (n=1)
- Outcomes are not clear or insufficient (n=2)
- No outcomes (n=8)
- Technology on diabetes screening reminder (n=3)

70 of full-text articles assessed for eligibility

n=14 publications (12 studies) included for meta-analyses
(9 Randomized Control Trials and 3 Control Clinical Trials)
<table>
<thead>
<tr>
<th>Name of Database</th>
<th>Author</th>
<th>Year</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PsycINFO</td>
<td>Dodd, Jodie M.; Turnbull, Deborah; McPh...</td>
<td>2014</td>
<td>Antenatal lifestyle</td>
</tr>
<tr>
<td>Cochrane</td>
<td>Dodd, J. M.; Turnbull, D.; McPhee, A. J.; D...</td>
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<td>Briley, A. L.; Barr, S.; Badger, S.; Bell, R.</td>
<td>2014</td>
<td>A complex intervention</td>
</tr>
</tbody>
</table>

**REMOVE DUPLICATE BEFORE SCREENING**

HTTPS://YOUTU.BE/U8VUFW_6O2W
SCREENING TOOLS: EXCEL/ENDNOTE?

Tools for Managing a Systematic Review
http://guides.library.cornell.edu/c.php?g=459012&p=3142087
Installing EndNote X8 on PC

Contact NUS IT Care (6516 2080, itcare@nus.edu.sg) for installation issues

http://libguides.nus.edu.sg/endnote

EndNote: Installation

EndNote (EN) is a software for managing references. It can automate the many tedious steps involved in organizing and formatting the references and bibliographies in your academic writing. EndNote Web (ENW) is the web version of EN, with fewer features.

EndNote for NUS Students

EndNote software is available to NUS staff and students free of charge for both Windows and Mac users. Endnote should be removed (un-installed) when the user is no longer a staff or student of NUS. Instructions are as follows:

Before you begin:

- Ensure that your computer is connected to NUS computer network and you have administrator rights to the pc or laptop.
- Un-install any previous versions of EndNote from your computer
Recap

Databases
- Cochrane
- PubMed
- Embase
- CINAHL
- PsycINFO
- Proquest
- Scopus

Direct Export

EndNote X8

EndNote Library

Remove duplicate

Cite While You Write

MS Word
CITE WHILE YOU WRITE

• Use MS Word to insert citations into your paper.
• Create a paper with properly formatted references, bibliography, figures & tables.
• Do **NOT** edit the references in Word.
• Any editing should be done in EndNote Library only.
• To locate citation and bibliography fields, change the MS Word’s Field Shading option.
ENDNOTE X8 TAB IN WORD
THANK YOU!

Please submit online feedback at: