Finding Evidence-based Information

A sample case study

You are a recently graduated RN working with a child health nurse. One of her patients is 5 year old Sam who suffers from nocturnal enuresis. His mother said it is a constant problem and it was affecting Sam more lately as he is now getting to the age when children like to have a sleep-over. Sam was reluctant to accept invitations because of his embarrassment. The conventional therapies include medication (desmopressin in antidiuretic hormone or arginine vasopressin, either of which decrease night-time urine production), and enuresis alarms. His mother is unconvinced about the safety of Sam taking ‘drugs’ and wants to try using a bed wetting alarm. You decide to find out which treatment is more effective by doing a search to find the evidence.

Analyse your topic

Identify the answerable question – a/the core question that requires evidence-based information from which to make a decision for the best treatment etc.

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Part A Question 1: An answerable Question & PICO vs PIO

In this sample case study, a few key points from the patient interview have been identified. This will enable us to work through the steps to find the best-evidence on which to make a decision for the most appropriate patient care.

In the case study it is identified that:
- Sam is a 5 year old child.
- Sam suffers from nocturnal enuresis.
- Sam's mother advised that it is a constant problem and is affecting Sam.
- Sam's mother would like to avoid the use of drugs as a form of treatment.

The answerable question for this case study could be:
What are the experiences of young children using a bed wetting alarm as an effective treatment for nocturnal enuresis?

Make sure your research question is specific and that it is a question and not a statement. This is a qualitative answerable question but we could include a quantitative element too.

The research question in the PICO Framework

What are the experiences of young children using a bed wetting alarm as an effective treatment for nocturnal enuresis?

<table>
<thead>
<tr>
<th>Question parts/concepts</th>
<th>Search terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>5 year old child suffering from Nocturnal Enuresis</td>
</tr>
<tr>
<td>Intervention</td>
<td>Bed wetting alarm</td>
</tr>
<tr>
<td>Comparison</td>
<td>Medications such as Desmopressin or Arginine vasopressin</td>
</tr>
<tr>
<td>Outcome</td>
<td>No bed wetting</td>
</tr>
</tbody>
</table>

The PICO Search Strategy Worksheet can help when designing an effective search strategy.

Plan your search

Analyze your topic
Plan your search
Decide where to search
Evaluate and Manage

Part A Question 5: Search Terms

<table>
<thead>
<tr>
<th>Question parts (concepts)</th>
<th>Search terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Child Nocturnal enuresis</td>
</tr>
<tr>
<td>I</td>
<td>Bed wetting alarm</td>
</tr>
<tr>
<td>C</td>
<td>Not required due to Sam's mothers concerns about the use of drugs</td>
</tr>
<tr>
<td>O</td>
<td>No bed wetting</td>
</tr>
</tbody>
</table>

But why do you need to find alternative terms and key words (synonyms) and how do you find them?

How to find alternative search terms

Dictionaries & Encyclopaedias:
Use these to source the meaning of terminology. Some are e-versions.

Books:
Are a good starting point for an introduction to the topic such as background information, theories, frameworks and overviews. Your Reading List in Blackboard includes recommended texts for your Unit.

Journal Articles:
Provide information on current research, often specific to a topic. They are an online source of information searchable from the ECU subscribed databases and sometimes ECU Worldsearch.

Websites:
These include Government Reports, professional, research organisations. The Nursing Library Guide lists many of the credible sites to use.
How to find alternative search terms

The description tab in a record either in ECU Worldsearch can provide possible alternative search terms (keywords/alternative terms).

The Major and Minor Subjects listed within an article sourced from a Database can also provide possible alternative search terms (keywords/alternative terms).

No Wikipedia in your references!

Wikipedia only the planning stage!

Wikipedia articles can be useful to gain a quick overview of the topic, and/or to find alternative terms/keywords for your search strategy. Remember anyone can write a Wikipedia article, so will it be accurate?

Quality Wikipedia articles will contain references to their sources - listed at the bottom of each page. They can often be credible quality sources of information that you can cite in your assignments.

Note: If the information available in Wikipedia is accurate, it will always be available as a scholarly source, such as a book, Journal Article and/or a quality website. Do not use a Wikipedia source as supporting evidence in your assignment, always use the scholarly source.

Part A Question 5: Search Strategy

- Decide which terms (words) you should use to search.
- Focus on the who (is it meant to treat), what (disease, condition etc.) and the intervention, as the searchable concepts:
  - Child/children
  - Nocturnal Enuresis/Bed wetting
  - Bed wetting alarm
- For each concept consider any synonyms (keywords & alternative terms)

A potential search strategy:

<table>
<thead>
<tr>
<th>Patient Problem/Population</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Nocturnal Enuresis&quot;</td>
<td>&quot;Bedwetting alarm**&quot;</td>
</tr>
<tr>
<td>Enuresis</td>
<td>&quot;Bed wetting alarm**&quot;</td>
</tr>
<tr>
<td>&quot;Bed wetting&quot;</td>
<td>&quot;Buzzer alarm**&quot;</td>
</tr>
<tr>
<td>Bedwetting</td>
<td>&quot;Enuresis alarm***&quot;</td>
</tr>
<tr>
<td>&quot;Urinary incontinence&quot;</td>
<td>&quot;Behavi<em>r</em> therap**&quot;</td>
</tr>
</tbody>
</table>

And any others you may find...

Part A Question 6: Search Strategy

Smart Searching: how to search for these concepts

- words vs. phrases (put phrases in “”)
- Truncation (use * to ensure plurals, word extensions and/or the American spelling are covered in your search)
  - e.g., nurs* = nurse, nursing, nurses
  - e.g., librari* = library, libraries
  - e.g., behavi*r = behaviour (Australian) vs. behavior (American)

Boolean Operators: this is the use of AND, OR and NOT to join search phrases and words.

A potential search strategy:

| "Nocturnal enuresis" OR enuresis OR "bedwetting" OR "bedwetting alarm" OR "urinary incontinence" |
| "bedwetting alarm"* OR "bed wetting alarm"* OR "buzzer alarm"* OR "enuresis alarm"* OR "behavioral therapy"* |
Clarifying some queries you may have

• There is no need to include ‘child’ as a search term, because within most databases there is the option to refine the search results by age groups. However, you may have to include child in the search strategy if a database does not have this option.

• The actual search terms used in the search strategy will depend on the database you search across.

• The Boolean operator of ‘OR’ connects the synonyms for each part/concept and the Boolean operator ‘AND’ joins the concepts.

• Where do I find the information I need?

• What date parameters will I use?

Part A Question 4 Specify the limits

Date parameter:
• Is there an Assignment date parameter set?
• What is your topic e.g. Zika virus

Language
Type of Information e.g. Zika virus

Part A Question 3: Decide where to search

Where to find evidence-based information

Identify and use databases that cover the topic area.

Significant Health Science Databases:
Specific evidence-based health Databases:

So what do these Databases cover?

To find out more about particular databases go the Nursing Library Guide and the Databases/Journals tab (http://ecu.au.libguides.com/nursing/journal-databases)

So what do these Databases cover?

or check the Evidence-based Health Library Guide under the Databases/Journals tab (http://ecu.au.libguides.com/evidence-based-health)
How do you access these Databases?

Access these databases via the Library website homepage or via the Library Guides homepage.

Accessing and searching CINAHL

Access this database via the alpha list or go to the Subjects dropdown box and choose Nursing. This subject group, lists the Nursing Databases subscribed to by ECU.

Part A Question 6: Documenting the Search -CINAHL

In CINAHL, as do most databases the Boolean operator of AND is already populated for you.

Search results: 16
Refine by article (excludes books): N/A as Databases do not contain books
Refine by Academic Journal: 14
Date range – last 10 years: 7
English language: N/A as the 7 results are in English language.

(N.B. that the SNM Assignment Guidelines usually state 5 years or less)

Refining by information type in CINAHL

In addition to the common filters available, CINAHL also includes the ability to refine search results by information type – such as specific evidence-based information.

REMEMBER: MEDLINE and PsycInfo are also hosted by EBSCOhost and are therefore searched in the same way as CINAHL.

Refining by information type in CINAHL

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Part A Question 6: Documenting the Search -CINAHL

In CINAHL, as do most databases the Boolean operator of AND is already populated for you.

Database | Search Terms | Number of Articles Retrieved | Relevance to your Question
---|---|---|---
CINAHL | nocturnal enuresis OR enuresis OR bedwetting AND (enuresis alarms OR behavi*r therap*) | 16 | Refined by parameters of journal articles, English language and last 10 years = 7
MEDLINE | | | 
PsycInfo | | | 
EBSCOhost | | | 
JBI | | | 

(N.B. that the SNM Assignment Guidelines usually state 5 years or less)
Part A Question 6: Documenting the Search - JBI

Access this database the same way as you accessed CINAHL.

The JBI Database contains systematic reviews, Evidence Summaries, Evidence Based Recommended Practices Consumer Information Sheets, Systematic Review Protocol and Technical Reports. It is a small database with only 3000 records.

Note: Keep the search strategy simple because of the limited number of records held in this database.

Searching in JBI

The number of search results are listed above the search fields with the actual search results listed below the search fields.

Search results: 5
No limits used due to small number of results.
Types of information retrieved: Evidence summaries, Customer Information Sheets and systematic reviews – all forms of evidence-based information.

Accessing JBI search results

Note: Evidence-based summaries are great because they provide a list of references for the particular topic that can then be followed up on.

There is a short video on how to use the JBI Database in the Database/Journals Tab of the Nursing Library Guide.

Part A Question 6: Documenting the Search - Cochrane

Access this database via the alpha list or go to the Subjects dropdown box and choose Nursing. This subject group lists the Nursing Databases subscribed to by ECU.

OR

Searching in The Cochrane Library

The Cochrane Library contains high quality, independent evidence. It includes reliable evidence from Cochrane and a group of 6 affiliated databases. In addition to systematic reviews it also includes clinical trials, method studies and more.

Note: Again keep the search strategy simple because of the highly specialized records in this database.

Searching in The Cochrane Library

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Click on the search results number and view the number of results per information type.

Refining the search results in the Cochrane Library

Click on this box to view or set limits.

Accessing search results in Cochrane

And finally ECU Worldsearch

It can be useful to start by doing a broad multidisciplinary search in ECU Worldsearch.

Search results: 149
Refine by article (includes books): 146
Date range – last 10 years: 85
(N.B. that the SNM Assignment Guidelines usually state 5 years or less)
English language: 69

But how many of these results are relevant and evidence-based?
This is where you scan and skim each result and save any relevant results for reading in full and making selections.
This is the next step and forms part of Question 6.

Part A Question 6: Documenting the search process
Question 7: Relevance - Scanning & Skimming

Evaluate: Scanning & Skimming search results

While locating information in the search process you should scan and skim the search results for signs of relevancy – look at the title and abstract.

**Scanning**

Reading to find specific information to answer a question/solve a problem. Use your knowledge of how information is organised to quickly find relevant content (e.g., abstract, introduction, conclusion, summary, tables, etc.). This will enable you to:

- locate the relevant sections;
- read only as much as you need to find the relevant information.

**Skimming**

This is a quick initial reading of the piece of information such as an article or evidence summary or randomized control trial to:

- establish usefulness and/or
- obtain an overview (the gist).

Browse, survey the content, dip into different parts of the article etc.

REMEMBER: You still need to analyse for content credibility and relevancy. This will include looking at the quality of the evidence (e.g., was the randomised control trial conducted in the prescribed way) and the relevancy of the conclusions/outcomes.

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Managing search results in ECU Worldsearch

These 3 buttons on the top right-hand side of the screen enable you to share the information, cite, and/or save the record until you decide it is the best information for your purpose.

Managing search results in the CINAHL database

Some useful features in CINAHL to manage search results is the ability to save, cite, e-mail or access the full-text.

You can also save your search and the search results in CINAHL by setting up an account.

Managing search results in the JBI database

In the JBI Database you can print or e-mail the results and access the full-text.

There is also the ability to save the search and the search results if you create an account.

Managing search results In The Cochrane Library

In The Cochrane Library you can print or e-mail the results and access the full-text.
And finally – some useful links

- Academic Skills in Nursing and Midwifery Online Modules: https://ecu.au.libguides.com/academic-skills-in-nursing-and-midwifery

Where to start

- Review Gemma’s video and PPT on the unit Blackboard site. She steps you through her expectations for this assignment.
- Become familiar with search strategies and using the nursing databases. Review Diane’s slides
- Answer each part of the template: Part A and Part B
- Review relevant modules from the unit.

Template

Make sure you use the template that you have been given for this assignment

End-text references for your chosen articles

Follow the ECU Referencing Quick Guide or watch the intro referencing video.

Use the cite me function in the library systems and then check to ensure it is accurate.

A word on referencing

- End-text: review ECU Quick Referencing Guide and follow the formatting for journal articles
  - http://ecu.au.libguides.com/referencing
  - Referencing for Beginners Resource
Writing your critical review of article

Critical appraisal enables you to assess the trustworthiness, relevance and results of published papers so that you can decide if they are believable and useful

1. Is the study valid? (methodological quality)
2. What are the results? (clinical significance)
3. Are the results useful? (application to practice)

http://www.casp-uk.net/appraising-the-evidence

Writing the Critique

Academic reading is an important skill and key step in being able to complete the critical review.

You need to first critically read and understand the article before you can appraise the article, write the review and answer the questions.

Reading is a vital first step in completing the critical review

Step 1: Skim and scan the article to gain an overview and understand.
Step 2. Then do an in-depth read for understanding and annotate as you go.
Step 3. Then scan for relevant aspects of the articles in terms of the questions that need to be answered. Colour code
Step 4. Engage in your modules and other resources to be able to appraise and answer the question
Step 5. Write up your answers in direct concise sentences and in paragraphs.

A useful appraisal tool

http://www.understandinghealthresearch.org/

You could use your article to work through the tool as a starting point to get you thinking.

Useful resources for writing your critique

http://www.ucl.ac.uk/ioe-writing-centre/critical-reading-and-writing/critical-review


Write body in paragraphs

T…..Topic sentence (One sentence that explains the idea for that paragraph)

E…..Explain (Flesh out the idea a bit more)

E…..Evidence (Provide research to support the idea)

L…..Link (Link the idea back to your topic by explaining how the evidence is significant to the topic)
Academic Style

Features of Academic Writing

- Written in the third person (no I, we, us, our, you)
- Formal language
- Objective language
- Precise and specific vocabulary
- Clarity and conciseness
- Tentative language
- Accuracy
- Coherence and cohesion
- Correct in-text referencing and paraphrasing
- Accurate reporting words

Clear concise sentences

Two resources

Improving Sentence Structure
Common Sentence Problems

Use key nouns from the question in your topic sentences

Proofing and editing

- Editing focuses on the structure of your ideas within paragraphs i.e. What you say.
- Proofreading focuses on the grammar and punctuation.

If this is not your strong point, go to this site for the rules:
https://owl.english.purdue.edu/owl/section/1/6/
and this site for online practice exercises:
https://owl.english.purdue.edu/exercises/
Download a free version of Grammarly
https://www.grammarly.com/native/windows

Exemplar

Review the exemplar as an example of how to critically review an article.

N.B. It is only a guide in terms of structure and length for your critical review. Your content and analysis will be different.

Thanks to Justin Croker for allowing the use of his assignment for educational purposes.
Further assistance

- **General assignment drop-ins**
- **Studiosity** (access from Blackboard home page under My Communities)
- Referencing queries: [library@ecu.edu.au](mailto:library@ecu.edu.au)
- General learning support queries [learningadviser@ecu.edu.au](mailto:learningadviser@ecu.edu.au)

Good luck!