Library Research Skills

92318: Evidence for Nursing – Searching Tips

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Searching tips for Evidence for Nursing

Once you have developed your PICO question and identified each of the elements of the PICO formula you can use these as keywords or concepts for your search.

PICO example Sample scenario

Nocturnal Enuresis

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 an 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.

Creating a PICO question and identifying search terms

<table>
<thead>
<tr>
<th>Question</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>population or problem</td>
</tr>
<tr>
<td>I</td>
<td>intervention</td>
</tr>
<tr>
<td>C</td>
<td>comparison</td>
</tr>
<tr>
<td>O</td>
<td>outcome</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Five year old Child suffering from Nocturnal enuresis</td>
</tr>
<tr>
<td></td>
<td>Child</td>
</tr>
<tr>
<td></td>
<td>Nocturnal enuresis</td>
</tr>
<tr>
<td></td>
<td>Bed wetting</td>
</tr>
<tr>
<td></td>
<td>Urinal incontinence</td>
</tr>
<tr>
<td>I</td>
<td>Bed wetting alarm</td>
</tr>
<tr>
<td>C</td>
<td>Medications such as Desmopressin or Arginine vasopressin</td>
</tr>
<tr>
<td>O</td>
<td>No bed wetting</td>
</tr>
</tbody>
</table>

The next step is to decide which terms (words) you should use to search. Focus on the Intervention and what and who it is meant to treat. Therefore Nocturnal Enuresis or Bed wetting and Children are the first concepts to search. For each concept there should be several synonyms, so before you start searching try and think of all the different ways each concept might be expressed, and list them.
Now that we have our concepts with their synonyms thought through, it is time to start searching. To do so, go to the library website http://www.lib.uts.edu.au/.... Simply click on Find Databases ...

Then select the category for “Health” followed by “Evidence Based Practice”

You can access Medline, The Cochrane Library (which includes Cochrane DSR), EMBASE, and CINAHL from this page, plus several other useful databases for evidence based practice topics.
Which Databases should I choose?

Different databases are useful for finding different types of information. So think about what it is that you want to find.

Clinical trials, such as Randomised Controlled trials are often published as journal articles within specialist journals. To find these, you can try many different databases. The databases which index the journals you are likely to want to access will be health related databases such as:

- CINAHL (Cumulative Index of Nursing and Allied Health Literature)
- Medline (a very large journal database with an emphasis on medical literature)
- Embase (another very large journal database with an emphasis on pharmaceutical literature)

There are other possibilities – but the above databases all have a specific limit to help you find Randomised Controlled Trials. The worked examples on the following pages explain more about this. You might also find helpful the specific PICO YouTube videos we developed to help you with this assessment task.

Systematic Reviews are sometimes published in journal articles, but there are a couple of special and reputable databases which specialise in compiling and providing access to their systematic reviews. These are:

- Cochrane Database of Systematic Reviews
- Joanna Briggs Systematic Reviews.

Clinical Practice Guidelines are not published in journals as such – so there isn’t much point in looking for them in Medline or CINAHL. They are usually produced by hospitals or government departments for the purpose of providing clinical guidance for health professionals.

They provide recommendations for practice based on specific evidence. So when you are evaluating whether or not to use a Clinical Practice Guideline you should ask yourself the following questions:

- Do these Guidelines include the procedure or practice I’m looking for?
- Do these guidelines provide citations for the evidence they used to develop the procedures?
- Are the citations referring to a Systematic Review or a Randomised Controlled trial? (in other words, what is the Evidence?)

Clinical Practice Guidelines published by government departments tend to be freely available via the internet and there are a couple of free databases which are good to help you search for them. These are:

- Netting the Evidence (a Google ‘custom search’)
- Trip http://www.tripdatabase.com/

Another database which UTS Library subscribes to is “Up to Date”. This database is highly regarded for clinical guidance, but doesn’t tend to list many high level evidence sources to support its recommendations. So be wary about using sources if they do not provide this information.

Most of the databases mentioned on this page are accessible via the “Evidence Based Practice” databases list on the UTS library website.
Searching in CINAHL

CINAHL stands for Cumulative Index of Nursing and Allied Health Literature. It indexes more Nursing journals than any other database.

When we are following an evidence-based practice approach it is best to break up our search topic – or PICO question into chunks, or individual concepts, and search for each concept one at a time.

It is best to work out what concepts you plan to search – before you start.

With PICO however it makes this step easy as you’ve already done most of the thinking about what the concepts will be. **IMPORTANT:** Your INTERVENTION should be included when you search!

So our concepts in our sample scenario will be:

1. Nocturnal Enuresis
2. Bedwetting Alarm
3. Children / Child

For each of these concepts there will be several synonyms – which can all be included in the search. However, some of the databases have an age group limit, so we may not need to search for “Child”.

<table>
<thead>
<tr>
<th>Concept 1</th>
<th>Concept 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nocturnal Enuresis</td>
<td>Bedwetting Alarm</td>
</tr>
<tr>
<td>Enuresis</td>
<td>Bed wetting alarm</td>
</tr>
<tr>
<td>Bed wetting</td>
<td>Buzzer alarm</td>
</tr>
<tr>
<td>Bedwetting</td>
<td>Enuresis alarm</td>
</tr>
<tr>
<td>Urinary incontinence</td>
<td>Behaviour therapy</td>
</tr>
<tr>
<td></td>
<td>Behavior therapy</td>
</tr>
</tbody>
</table>

Once you’re in the database, ensure the “Suggest Subject Terms” box is ticked and type in the first term then hit “Search”. This means we are searching via the database’s Subject Heading list which is more focused than searching via key words. However a thorough search should include a combination of subject headings and key words. **NB: We only use the top line**
Select the heading which best describes what you just searched for – especially if there isn’t an exact match. However in this case, there is. Select the box next to “Enuresis, Nocturnal”

Once you make a selection, the screen will change a little bit and the “Search Database” button turns green and “Subheadings” appear. At this stage, ignore the subheadings and select “Search Database.” This retrieves just 46 articles which is not enough, so we need to enter more synonyms, as per our table above.

Try just entering “Enuresis” in the search box. Select “Search Database” again.

It is highly likely that you will see more synonyms for your concept amongst the results of your first searches, so try adding some of these to your list... But next, I’m going to search for Enuresis again, but this time I’ll select it as a **Keyword** – it is interesting to see how the results vary.

So far, my search history looks like this:
Next we search for further synonyms and repeat the same process until we have as many as we can. Don’t forget to include one and two word variations – such as **Bedwetting** and **Bed Wetting** as these will retrieve different results.

Also, when searching **keywords**, consider **truncating** (*) the word if there are different ending possibilities such as “Urinary incontinen*” or to account for English vs American spelling (eg Behaviour vs Behavior) “Behavio*”.

Once you have searched for all your Concept 1 synonyms with a combination of **Subject Headings** (indicated as ‘MH’) and **Keywords** select all the search lines and select “**Search with OR**”

This will retrieve a very large number of results... far bigger than 46! Which is what you need to get some results in the end.

Now we are ready to start searching for our second concept which is “**Bed wetting Alarm**” or perhaps even “**Behaviour therapy**”.

Once we have added these all to the search, it looks something like this:
So now we can select all the search lines which relate to our second concept and select “Search with OR” again... then we can select the two combined sets and select “Search with AND”.

<table>
<thead>
<tr>
<th>Search #</th>
<th>Search Terms</th>
<th>Search Options</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>S15</td>
<td>S0 OR S10 OR S11 OR S12 OR 213 OR 214</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (5,030)</td>
</tr>
<tr>
<td>S14</td>
<td>(MH “Behavior Therapy”)</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (4,595)</td>
</tr>
<tr>
<td>S13</td>
<td>“behaviour therapy”</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (543)</td>
</tr>
<tr>
<td>S12</td>
<td>“enuresis alarm”</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (9)</td>
</tr>
<tr>
<td>S11</td>
<td>“buzzer alarm”</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (0)</td>
</tr>
<tr>
<td>S10</td>
<td>“bedwetting alarm”</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (0)</td>
</tr>
<tr>
<td>S9</td>
<td>“bedwelling alarm”</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (0)</td>
</tr>
<tr>
<td>S8</td>
<td>S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (7,108)</td>
</tr>
<tr>
<td>S7</td>
<td>“urinary incontinence”</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (6,523)</td>
</tr>
<tr>
<td>S6</td>
<td>(MH “Urinary incontinence”)</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (5,471)</td>
</tr>
<tr>
<td>S5</td>
<td>“bedwetting”</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (92)</td>
</tr>
<tr>
<td>S4</td>
<td>“bed wetting”</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (45)</td>
</tr>
<tr>
<td>S3</td>
<td>“enuresis”</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (633)</td>
</tr>
<tr>
<td>S2</td>
<td>(MH “Enuresis”)</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (529)</td>
</tr>
<tr>
<td>S1</td>
<td>(MH “Enuresis, Nocturnal”)</td>
<td>Search modes - BooleanPhrase</td>
<td>View Results (46)</td>
</tr>
</tbody>
</table>

So now we can select all the search lines which relate to our second concept and select “Search with OR” again... then we can select the two combined sets and select “Search with AND”.

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<td>View Results (92)</td>
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</table>
This will leave us with a smaller number (210) (combining with OR gives us bigger sets but combining with AND gives us smaller sets) but should still be big enough to allow further limits – such as our Age group limit (Child) and also we only want to retrieve certain types of publications – in particular Randomised Controlled Trials.

So to limit, scroll down the page a little until you see where it says “Refine Results” down the left column:

To access the limits which include Age groups and RCTs you need to select “Show More” just below the Publication Date slider.

This will open a pop up window with lots of options. “Age Groups” are towards the bottom on the right side. Scroll down and select Child, Preschool 2-5 years AND Child, 6-12 years. Hold down the Control key to select both.

On the same screen you can also select Randomized Controlled Trial. There is a check box or you can select from the “Publication Type” where you can also select “Systematic Reviews”

Once you have finished your selections, click on “Search”

My search retrieved five articles which you can view if you scroll down the page again. Do the articles answer the PICO question?? (see the Abstract to find out) And how many RCTs vs Systematic Reviews did we retrieve? Or are they all Systematic Reviews?
You can check whether there is an abstract available for each if you ‘hover’ over the ‘magnifier symbol’.

Sometimes the articles will be available in full text from the database, but mostly they will not. You can usually select the “SFX” symbol to find the full text via another database. A pop up screen will indicate whether Full text is available somewhere else. In most cases, if you click on a “Full text available via” link it will take you directly to the article.
**Important note:** it is foolish to limit your search to “Full Text” or “abstract”. This will eliminate all articles which do not have full text or an abstract appearing in the database you are searching and therefore could eliminate many important items from your results. It is often possible to get the full text or an abstract for an article through another service or there may be an abstract with the full text version of the article even if not listed in the database. Just because the database you searched doesn’t provide an abstract or full text doesn’t mean it’s not available somewhere else. It often is!

To help you manage your results – for this and other assignments, you can select the articles you want to investigate further later as you scan down the list by selecting where it says “Add to folder”. Once you’ve been through the list you can view all your selections in one list by clicking “Folder View” under “Folder has items” on the right side of the screen. Alternatively go to the very top of the page and click on where it says “Folder”.

A list of your selections will appear. From this screen you can save, print, email or export (to Refworks or EndNote) your results.

If you want to keep your search for a later occasion, you can set up a personal account in Ebsco – click on where it says “Sign into MyEbscoHost” at the top of the page, and select “Create a new account”

If you can’t find enough results in CINAHL, don’t worry as you can still try Medline or even EMBASE to find your RCT article/s.
Searching in Medline (Ovid)

When using Medline, the default is “Advanced search” which should have the “Map term to subject heading” button already ticked. This allows you to search via the subject headings which have been allocated to each article record rather than doing a key word search. This should result in a more focused and accurate search as all the articles which are significantly about preoperative fasting will have the subject headings “Preoperative care” and/or “Fasting”.

Search each term individually to identify the best subject heading which describes each concept you what represented in your search. Be aware that the term used in the subject headings may not always be exactly what you expect – and may be different in different databases.

You can follow the same search strategy as used in CINAHL which should make that part of the process a little easier...
First type in “Nocturnal Enuresis” and then select “Search” (Note “Map Term to Subject Heading”)

This ‘maps’ to precisely what we typed in, and it is already ticked... select “Continue” and again.

![Medline search interface](image-url)
This retrieves 381 results and shows in our Search History:

Just like our CINAHL search, we need to include all our synonyms again, so follow the same process until you have entered them. Again, this will be a combination of Key words and Subject headings:
Medline is a much bigger database than CINAHL which is why we have retrieved so many more results. We are now ready to add some limits.... Scroll down until you find “Additional Limits”

Select it and another screen appears:

Just like CINAHL, we can select “Age Groups” and “Publication Types”

And then select “Limit a Search”
We can now retrieve 32 results and all of them are Randomised Controlled Trials! It is just a matter of finding the best one to answer our PICO question.

In your list of results, SFX is a linking tool to help you find the full text if it is available via another database – and if there is no abstract showing, as you do not need the full text for this assignment.

To show your search history, there are a couple of options.

1. use “Print Screen” to paste the search history table into your Word document. (much like the screen shots provided in this handout!)
   a. Hit the PrtScn button on your keyboard (next to the F12 button) which captures the whole screen.
   b. If you have a Mac use this: Apple (Command) Key +Shift+3 or Apple (Command) Key +Shift+4. The ‘4’ option allows you to just capture a portion of the screen and the ‘3’ option will capture the whole screen.
   And then paste it straight into your word document. To crop the image, use the “Picture Tools” which has a cropping tool.

2. Alternatively, from Medline, choose your article and select it. Then scroll back to the top of the results list where it says “Print”
   That will throw up another screen where you need to select the “Citation + Abstract” and “Include Search History” options: (and then click on “Print Preview”) That will provide you with the search history and the Abstract on one screen which you can print or capture the screen.
Searching in Cochrane Library (Wiley)

The Cochrane Library includes the Cochrane Database of Systematic Reviews which is the gold standard for evidence based practice. It can be searched quite simply (ie using a few key words for your topic) which will get you good results. However for this assessment task you need to search with all your synonyms just like we have in CINAHL and Medline.

So to do this, first open the Cochrane Library from the “Find Databases” page. It is listed with the Evidence Based Practice list of databases. Select the “Advanced Search”

Within the Advanced search, select the “Search Manager”

In the top space, type in your first term for Concept 1. (eg Nocturnal Enuresis) and select “Go” – this will be a keyword search... as soon as you enter “Go” the Search Manager will add another line ready for your next term.
It is also possible to search using the Medical Subject Headings – or MeSH... to do this select the little m in the circle and enter your term where it says “Enter MeSH term” and then select “Look Up” It will come up with a page which looks like this..... You can select “Single MeSH term” or leave it at the default which is “Explode all trees”... then click where it says “Update Search Manager”

This will add the Subject Heading – or MeSH heading to a line on your Search Manager...
If you need to add another line, select the little + symbol... Keep adding more of your synonyms for your Concept 1 until they look something like this: (don’t forget to truncate (*) your keywords when appropriate)

To combine all your lines together with OR, you need to add another line and type in #1 OR #2 OR #3 OR #4 etc ... like this:

And then select “Go”
Then you can do the same with your Concept 2:

Then... I’m sure you will know what to do next....
So your search history should end up looking a bit like this.

To see your results... select the results number on your final line

This will then take you to a list of results like this:
But... you only want to see the actual Systematic Reviews. In this database they are variously referred to as “Cochrane Reviews”, “Reviews” or “Intervention Reviews”... but they are the same thing.

To eliminate anything which isn’t a Systematic review select “Review” on the top left of the screen. You will find that the Review/s closest to your topic should be at the top (or close to the top). The best one for our PICO here is the second title “Alarm interventions for nocturnal enuresis in children”

Select the title to see the full review. This will open to the Abstract, which should be enough information to indicate what the evidence is for whether Alarms work or not! Do they???

You might also find it interesting to look at the “References” tab. This lists all of the RCTs which were included in the Review – plus all the RCTs they considered but excluded.
Alarm interventions for nocturnal enuresis in children

Cathryn MA Glazener1*, Jonathan NC Evans2, Rachel E Peto2

Editorial Group: Cochrane Incontinence Group

Published Online: 20 APR 2005
Assessed as up-to-date: 27 FEB 2007
DOI: 10.1002/14651858.CD002911.pub2
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Abstract

Background

Enuresis (bedwetting) is a socially disruptive and stressful condition which affects around 15 to 20% of the five year olds, and up to 2% of young adults.

Objectives

To assess the effects of alarm interventions on nocturnal enuresis in children, and to compare alarms with other interventions.

Search methods

We searched the Cochrane Incontinence Group Specialised Trials Register (searched 28 February 2007) and the reference lists of relevant articles.

Selection criteria

All randomised or quasi-randomised trials of alarm interventions for nocturnal enuresis in children were included, except those focused solely on daytime wetting. Comparison interventions included no treatment, simple and complex behavioural methods, desmopressin, nitrates, and miscellaneous other methods.

Data collection and analysis

Two reviewers independently assessed the quality of the eligible trials, and extracted data.

References

References to studies included in this review

Azrin 1974 (published data only)


Azrin 1978 (published data only)


Baker 1988 (published data only)

Finding CPGs in TRIP

TRIP is a free database specifically for finding high quality clinical research evidence. Many Clinical Practice Guidelines are published by government agencies or hospitals and many are freely available on the internet. This database is very effective for finding them!

This is the front page you see... and you probably would be tempted to try the PICO search! But it’s actually not the best one to use. The Advanced Search or the Rapid Review however are both good for searching for CPGs...

It isn’t however possible to search in quite the same way that we did with the other databases – so we need to improvise a little:
I’ve included any essential words for the “All of these words” and synonyms in “Any of these words”
If this however seems to be a problem, try the “Trip Rapid Review” which allows you to search for the Population and Intervention of your PICO:

Trip retrieves 80 (controlled trials) results on this search and 224 results in total. There is a very useful set of filter options down the right hand column which includes a range of High level of Evidence publication types such as RCTs and Systematic Reviews, but we are particularly interested in the **Clinical Practice Guidelines** which are described here as “Guidelines”. They are further broken down into countries:
You can select which country you want the guidelines to come from... eg UK and easily get a list of relevant Clinical Practice Guidelines on your topic... Once you choose the country, you can even choose from which institution they come from. The first in the list looks most relevant to me.

Selecting the title will link directly to the PDF on the page of the organisation who produced it.

To find the section within the Guideline which will address your particular question, look at the Contents page to find the relevant recommendation within the document.

To show your search history in this database, do a screen shot of where you entered your search terms (use the “Print Scrn” button on your keyboard, and paste into your Word document, then use “Picture Tools” to find the “Crop” button. That will allow you to eliminate the parts of the pasted image you don’t want. You can then increase the size of what you have left by clicking and dragging the bottom corner to fit the size you want.