# TO DO: Practical activities. Searching in bibliographic databases

## Aims and benefits of this practical activity

* Performing a scenario based search using the PICO method.
* Creating a search strategy to identify a manageable number of articles on a certain research topic.
* Using *Clinical Queries* and search restrictions by certain criteria offered in PubMed (e.g. by article type, year of publication, etc.).
* Acquiring the skills for writing references in the Vancouver style standard.
* Creating a bibliographic record file with a table of contents, to easily retrieve items of interest by title.
* Aquiring bibliographic documentation skills for research and current practice.

*Clinical Queries* allows the search for clinical studies according to their type: therapy, diagnostic, prognostic (risk factors).

## Searching for Therapy information

**Scenario:** You are interested in the usefulness of betablockers in heart failure.
**Clinical Question:** In *Heart Failure*, Is *Bisoprolol* more effective than *Carvedilol* for the reduction of patient *Mortality*?

We will use the **PICO** technique, as presented below:

|  |  |
| --- | --- |
| **P** - patient/problem to be solved (usually the name of the disease) | *Heart failure* |
| **I** - intervention of interest (e.g. a drug/medication) | *Bisoprolol* |
| **C** - comparison (e.g. another drug/medication) | *Carvedilol* |
| **O** - outcome of interest /objective (e.g. reduction of mortality) | *Mortality* |

We will perform the search using the resources available at the following addresses:

* <https://pubmedhh.nlm.nih.gov/nlmd/pico/piconew.php>:





We can observe a number of 149 articles resulting from the above search.

From the results page, we will have access to the *Abstract* and the *Full Text*, respectively.

* <https://www.ncbi.nlm.nih.gov/pubmed/clinical>:





In this case we obtain 141 search results.

On the results page we are presented with two categories of results:

* All results: 141 articles.
* Systematic Reviews: 23.

**Scenario:** You are interested to find out which of two possible treatments for *type 2 diabetes mellitus* (*insulin* or *hypoglycemic agents*) does not affect the *body weight* of treated patients.

1. Write the PICO components for this scenario in the table below:

|  |  |
| --- | --- |
| **P** |  |
| **I** |  |
| **C** |  |
| **O** |  |

1. Perform the above search, using the resources available at <https://pubmedhh.nlm.nih.gov/nlmd/pico/piconew.php>. Write the number of articles this resource gives you access to:

|  |
| --- |
|  |

1. Perform the above search on <https://www.ncbi.nlm.nih.gov/pubmed/clinical>, then answer the following questions:
2. Write the number of items identified by the search when using the ***Therapy*** category and a ***Broad*** scope:

|  |
| --- |
|  |

1. Write the number of items identified by the search when using the ***Therapy*** category and a ***Narrow*** scope:

|  |
| --- |
|  |

1. Further refine your search in the ***Therapy*** category with ***Narrow*** scope by applying the following criteria:

Languages = English

Species = Humans

Publication dates = last 10 years

Text availability = Free full text

Write the number of items identified after applying the criteria in point C:

|  |
| --- |
|  |

1. Write the Vancouver-style reference for the most recent item among those identified in the previous point:

|  |
| --- |
|  |

1. Which of the two types of resources (original researches or systematic reviews) is preferable, in your opinion? Justify your answer.

|  |
| --- |
|  |

**Instructions:**

* To select the most relevant search results, display all results by accessing the link ***See all****.*



## Searching for Diagnostic information

**Scenario:** You wish to find the better of two imaging methods to diagnose colorectal cancer (*Colorectal Neoplasms*).

**Clinical question:** Is *Computed Tomography* more sensitive (*Sensitivity*) compared to *Magnetic Resonance Imaging* in the diagnosis of C*olorectal Neoplasms*?

1. Write the PICO components for this scenario in the table below:

|  |  |
| --- | --- |
| **P** |  |
| **I** |  |
| **C** |  |
| **O** |  |

1. Perform the above search, using the resources available at <https://pubmedhh.nlm.nih.gov/nlmd/pico/piconew.php>. Write the number of articles this resource gives you access to:

|  |
| --- |
|  |

1. Perform the above search on <https://www.ncbi.nlm.nih.gov/pubmed/clinical>, then answer the following questions:
2. Write the number of items identified by the search when using the ***Diagnosis*** category and a *Narrow* scope:

|  |
| --- |
|  |

1. How many of these results are systematic reviews?

|  |
| --- |
|  |

1. Write the Vancouver-style reference for the most recent item among those identified in the previous point:

|  |
| --- |
|  |

1. Do you think that the article entitled *Comparison between 3-T magnetic resonance imaging and multi-detector row computed tomography for the preoperative evaluation of rectal cancer* available at <https://www.ncbi.nlm.nih.gov/pubmed/18043346> could answer the question of interest? After reading the summary of this article, answer the questions in the table below:

|  |  |
| --- | --- |
| What was the aim of the study? |  |
|  |  |
| Describe the studied sample: |  |
|  |  |
| What has been evaluated? |  |
|  |  |
| How many evaluators were involved? |  |
|  |  |
| What was the standard diagnostic method used as reference in this study? |  |
|  |  |
| ≤T2 3T-MRISe (Sensitivity)Sp (Specificity)Ac (Accuracy) |  |
|  |  |
| ≤T2 MDCTSe (Sensitivity)Sp (Specificity)Ac (Accuracy) |  |
|  |  |
| Which of the two methods has higher accuracy in staging colorectal cancer? |  |

## Searching for information on Prognosis / Ethiology and risk factors

**Scenario**: A 38 years old future mother (*mother age*) asks you for a precise *risk* estimate that her future child could suffer of trisomy 21 (*Down syndrome*).

1. Write the PICO components for this scenario in the table below:

|  |  |
| --- | --- |
| **P** |  |
| **I** |  |
| **C** |  |
| **O** |  |

1. Perform the above search, using the resources available at <https://pubmedhh.nlm.nih.gov/nlmd/pico/piconew.php>. Write the number of articles this resource gives you access to:

|  |
| --- |
|  |

1. Perform the above search on <https://www.ncbi.nlm.nih.gov/pubmed/clinical>, then answer the following questions:
2. Write the number of items identified by the search when using the Diagnosis category and a ***Narrow*** scope:

|  |
| --- |
|  |

1. Write the Vancouver-style reference for the article entitled *Chromosome 21 non-disjunction and Down syndrome birth in an Indian cohort: analysis of incidence and aetiology from family linkage data* (<https://www.ncbi.nlm.nih.gov/pubmed/20667163>):

|  |
| --- |
|  |

1. Find the full-text of the above article and write the required answers in the table below:

|  |  |
| --- | --- |
| How many subjects have been included in the study? |  |
|  |  |
| What was the population targeted by this study? |  |
|  |  |
| What were the mean maternal and paternal ages, and their respective standard deviations in the control group (Table 2)? | Maternal age:Paternal age: |
|  |  |

## Searching for information in books and treatises

Utility: to answer general medical questions

Disadvantages: Information is potentially obsolete, even if the books or treatises have been published recently.

To search for existing books and treatises in the UMF Cluj library you can access the library search engine at: <http://www.liberty.umfcluj.ro>

**Scenario:** You want to conduct your graduation thesis at the Department of *Microbiology*. To get an overview on several aspects in this area in order to discuss them with your future thesis coordinator, you've been looking for a comprehensive microbiology book to update your knowledge in that domain. The coordinator told you that an appropriate source would be a treaty whose title begins with the word Burton (Burton's Microbiology and something else).

**Search Technique:** Access the UMF Cluj library search engine.

Fill in the words you know, using the dedicated search box. To the right of the search engine you can refine your search by selecting the search type (basic search, advanced search, authors, corporate authors, lists, series, topics, titles) to find out if this book exists in the University's library.

Write the Vancouver style reference for the identified book:

|  |
| --- |
|  |

## The bibliographic record:

Utility: Easy access to information you've found to be of interest in articles or books

A bibliographic record should include at least the following information:

* the topic of documentation (in the form of keywords, e.g. the search strategy used)
* the reference: author's name(s), title of the paper, journal name, publication year, volume number, issue number
* the extreme pages of the article

**Requirements:**

You want to make a bibliographic documentation in order to identify possible diagnostic methods for online gaming disorders (*Internet gaming disorders)*.

Browse to <https://www.ncbi.nlm.nih.gov/pubmed/clinical> and create a bibliographic record for each article published in 2017 on the above topic, using the model below:

|  |
| --- |
| Write the reference of the article:  |
| Copy the link to the article: |
| Study aim: |  |
| Characteristics of the studied sample: |  |
| The way participants were motivated to participate: |  |
| Where the participants were selected from: |  |
| Name of the evaluated diagnostic method: |  |
| Conclusion of the study: |  |

## Conclusions

* Bibliographic documentation is an essential step both in the preparation and planning of research and in the updating of your medical skills, as medical knowledge continuously develops.
* The quoting of consulted sources is mandatory, and in the field of medicine, it must observe the Vancouver referencing style.

## To remember

* The bibliographic study represents the study of specialized literature.
* The bibliographic record contains the identification data of scientific articles, papers, specialty books and treatises.
* The PICO search technique is used to create specific search strategies.