Article Search And Selection Strategy Quartiles of Scientific Journal and how to use search engines

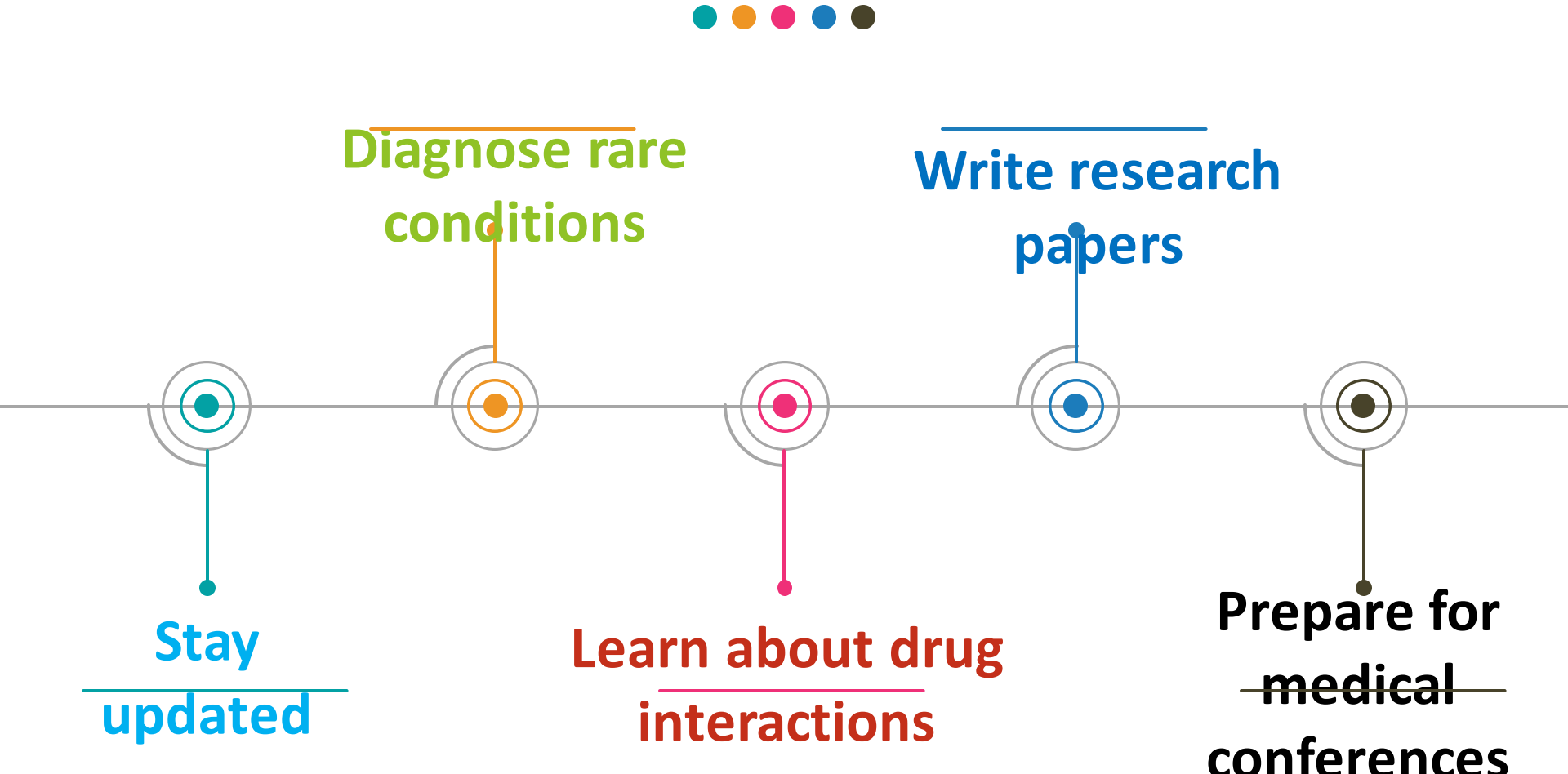
GREEN LIFE MEDICAL COLLEGE

Article Search
Selection Strategy
Quartiles of Scientific Journal

Prof. Dr. Md. Rifayet Rahman

GREEN LIFE MEDICAL COLLEGE

Why medical doctors search for articles?



Why medical doctors search for articles?

- **Stay updated** on new medical research and treatment guidelines
- **Diagnose rare conditions** by reviewing case studies and expert analyses
- **Learn about drug interactions** and the latest pharmaceutical developments
- **Improve patient care** with evidence-based practices
- **Prepare for medical conferences** and academic discussions
- **Write research papers** and contribute to medical journals
- **Educate patients** about their conditions and available treatment options

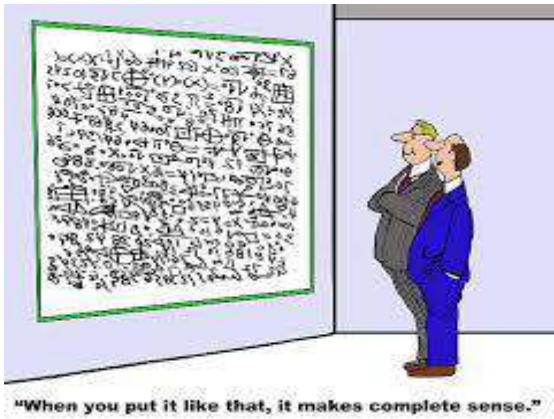
Where?

Results

A medical researcher uses a systematic approach to search and select articles, starting with a clear research question and refining their search terms

Formulate a Clear Research Question:

Begin by defining a specific, answerable research question. This helps focus the search and ensure the selected articles are relevant to the study's purpose



Research Questions: Bad Vs Good

What are the causes of stress?

This question is too broad and vague, making it difficult to focus on specific factors that cause stress.

How does workplace environment affect stress levels in employees working in tech companies?

This question is clear, focused, and researchable, narrowing down the scope to a specific setting and group.

Good Vs Bad RQs

- Specific
- Focus your research
- Require research to answer
- Can be answered through research
- Are important to the field
- Are manageable – not too broad or too narrow

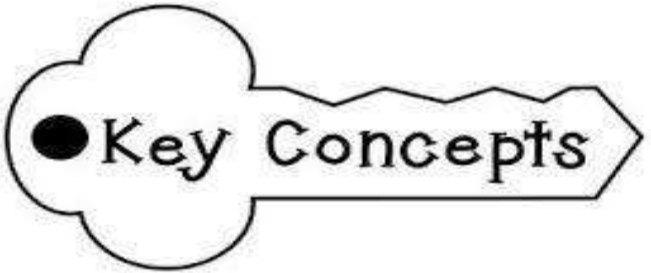
- Have simple and easy answers (can be googled)
- Can be answered in one word or one sentence
- Have no answer
- Are only a matter or opinion
- Are too complicated or too broad
- Are too vague

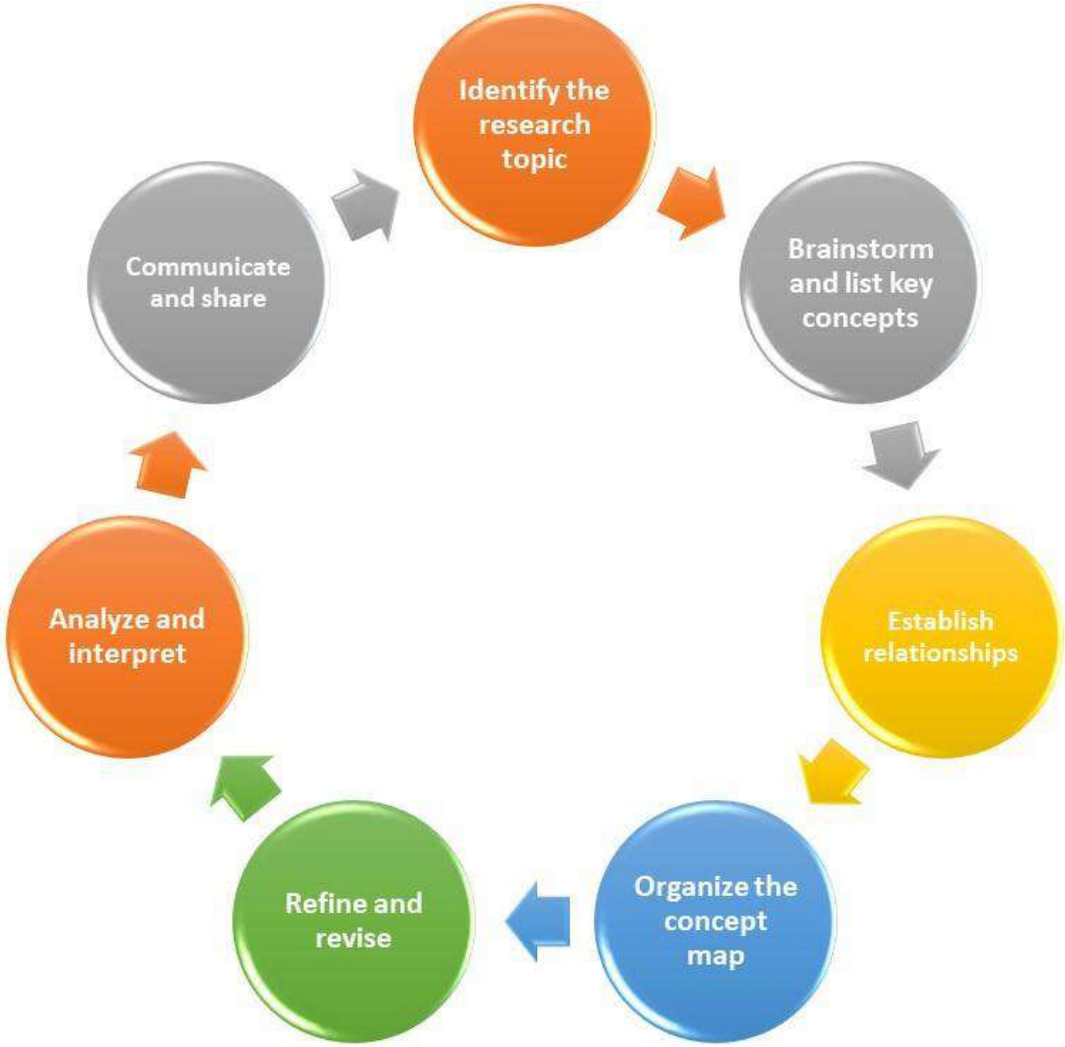
Good vs. Bad Research Questions

Good	Bad
1. How does vitamin C impact immune responses to Tylenol?	1. How does vitamin C cure colds?
2. How does Round Up slow the growth of evergreen trees?	2. How can we make plants grow faster?
3. How does MMR shots slow measles outbreaks in LA?	1. How effective are childhood vaccines?

Identify Key Concepts and Synonyms:

Identify the main concepts within the research question and brainstorm synonyms and related terms. This ensures a broader range of relevant articles are retrieved




Identify the research topic
Brainstorm and list key concepts
Establish relationships
Organize the concept map
Refine and revise
Analyze and interpret
Communicate and share

Example:
Research question is: "What are the effects of vaccine on covid?

Nouns- vaccine,Covid

- **Related concepts**
- **Background reading**
- **Brainstorming**

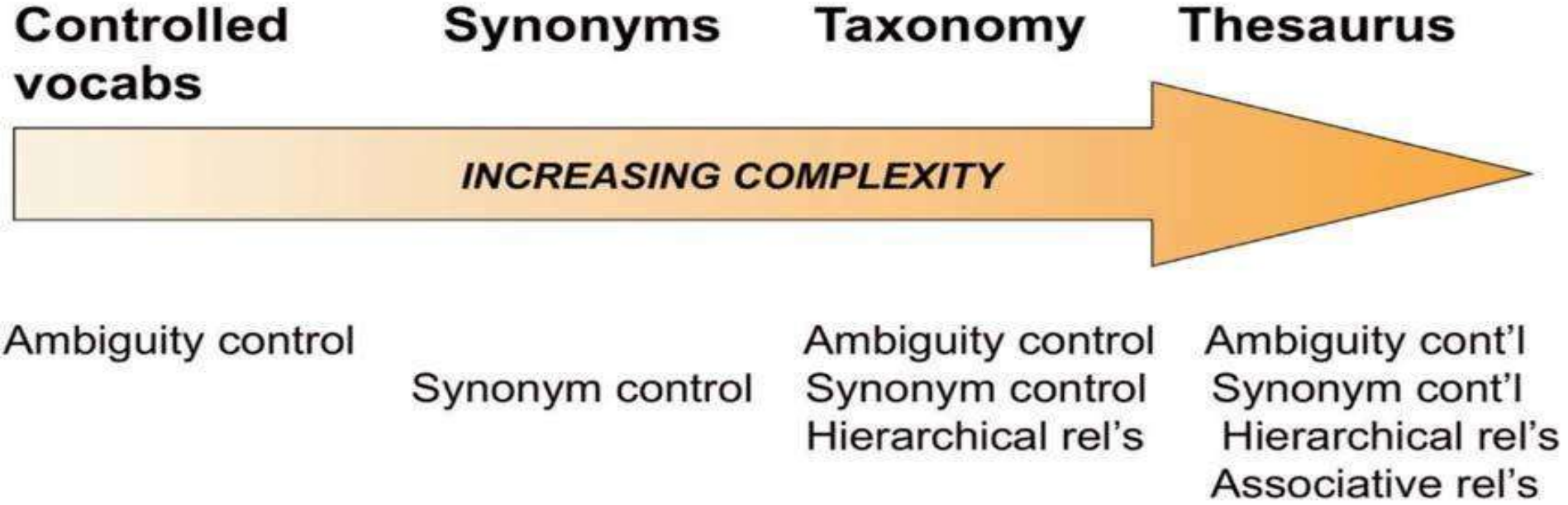
.

•By following these steps, you can effectively identify the key concepts in your research and build a strong foundation for your investigation.

Utilize Controlled Vocabulary and Subject Headings:

Leverage controlled vocabularies like MeSH (Medical Subject Headings) in databases like PubMed. MeSH terms are standardized and hierarchical, providing more specific and consistent results

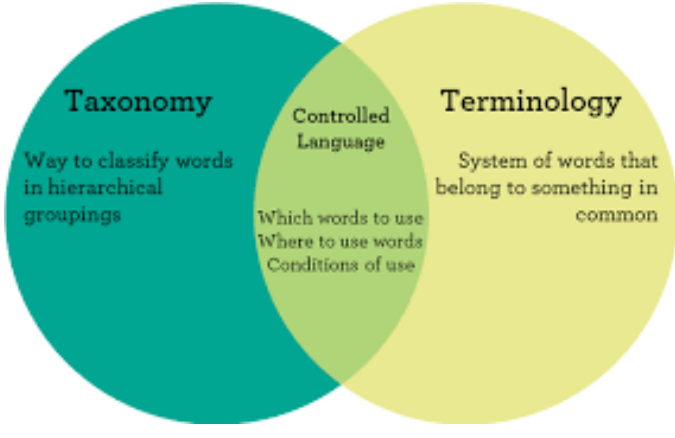
Structure of controlled vocabularies



Ontology – Ambiguity, Synonym, Hierarchy, *CUSTOM* Associations

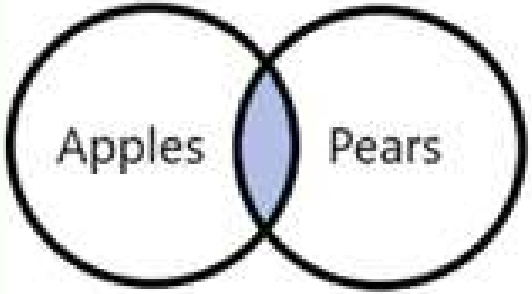
A controlled vocabulary is a predefined, organized list of terms used to index, classify, or retrieve information

For instance, the term "neoplasms" is the controlled vocabulary term for "cancer"



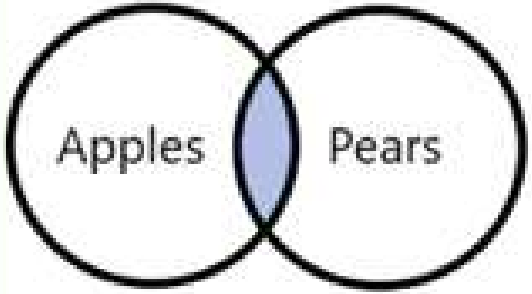
Combine Search Terms with Boolean Operators:

Use Boolean operators (AND, OR, NOT) to combine search terms effectively. For example, "cardiovascular disease AND exercise" can be used to narrow the search for relevant articles.

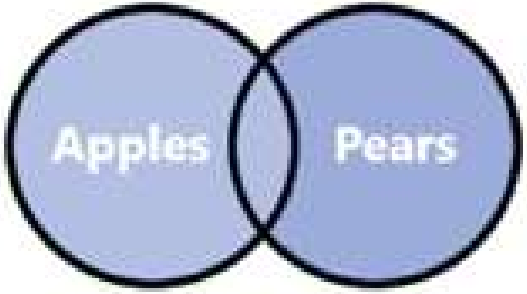


AND:

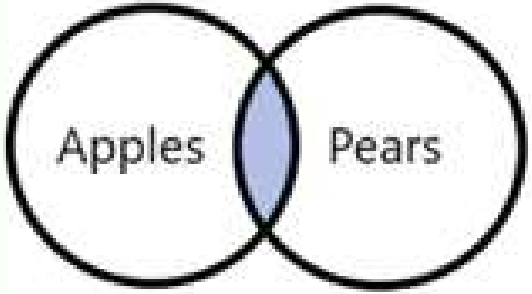
Searches for resources containing all items. Reduces the number of results



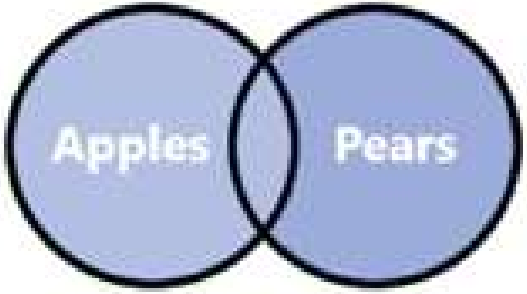
AND:
Searches for resources containing all items.
Reduces the number of results



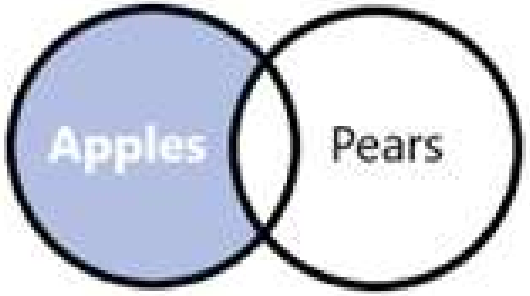
OR:
Searches for resources containing any term.
Increases the number of results.



AND:
Searches for resources containing all items. Reduces the number of results



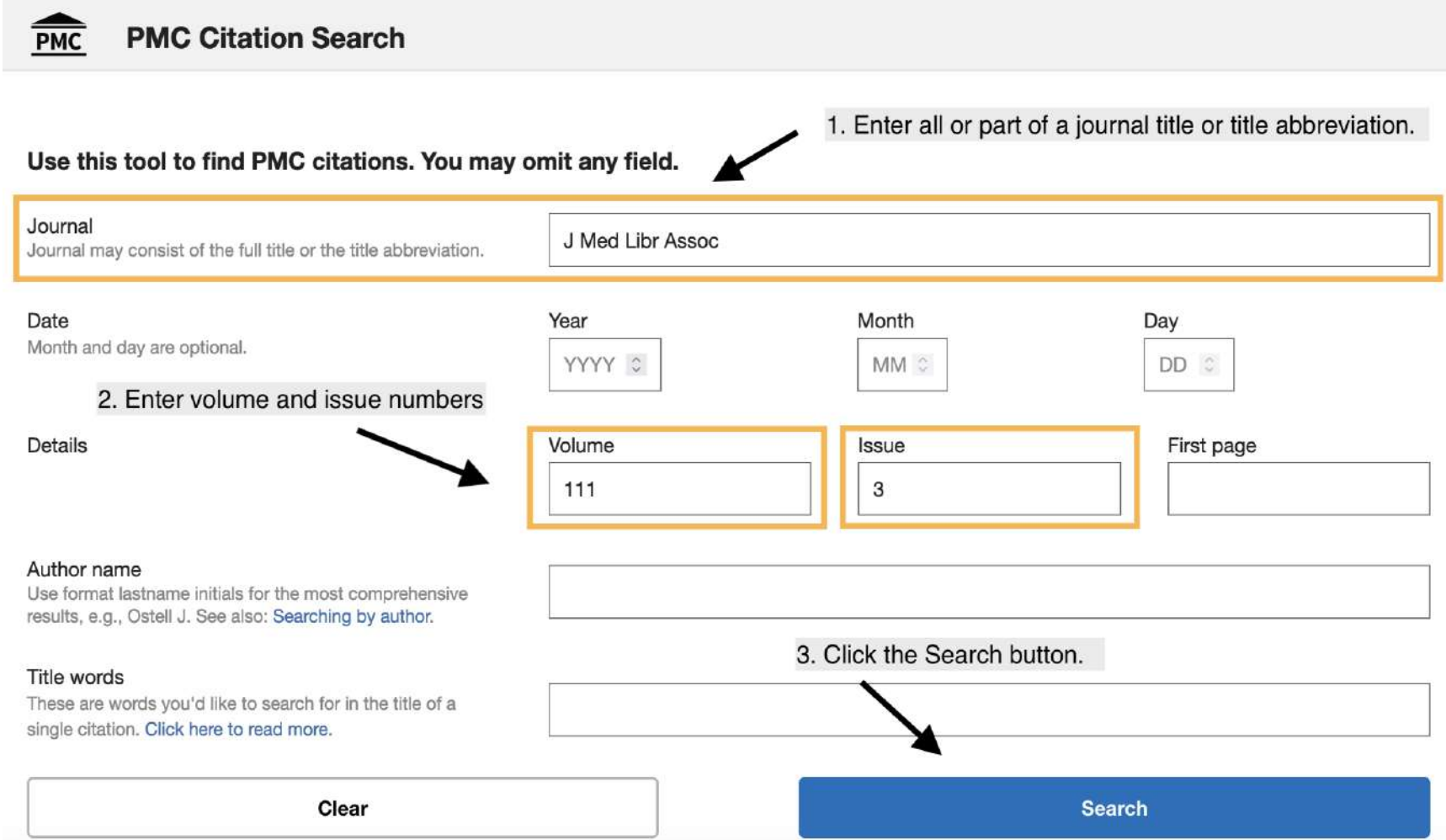
OR:
Searches for resources containing any term. Increases the number of results.



NOT:
Searches for resources excluding a term.

Refine Search and Apply Limits:

Apply limits such as publication date, language, and study type to further focus the search


PMC Citation Search
1. Enter all or part of a journal title or title abbreviation.
Use this tool to find PMC citations. You may omit any field.
Journal
Journal may consist of the full title or the title abbreviation.
J Med Libr Assoc
Date
Month and day are optional.
Year
YYYY
Month
MM
Day
DD
2. Enter volume and issue numbers
Details
Volume
111
Issue
3
First page
Author name
Use format lastname initials for the most comprehensive results, e.g., Ostell J. See also: Searching by author.
3. Click the Search button.
Title words
These are words you'd like to search for in the title of a single citation. Click here to read more.
Clear
Search

Review Abstracts and Select Articles

Carefully review abstracts of retrieved articles to assess their relevance to the research question. Inclusion and exclusion criteria should be established beforehand to streamline the selection process

Search Engines

search engine is a software system that finds and provides hyperlinks to websites and other relevant information on the internet in response to a user's query. Popular search engines include Google, Bing, Yahoo!, and DuckDuckGo

Bing

Google

YAHOO!

What search engines should we use?

PubMed

MedlinePlus

ScienceDirect

UpToDate

ClinicalTrials.gov

Cochrane Library

Embase

PsycINFO

MedicineNet

National Institutes ...

WebMD

OpenMD

PubMed.gov

influenza vaccine effectiveness

Search

Advanced Create alert Create RSS User Guide

Save Email Send to Sorted by: Best match Display options

MY NCBI FILTERS

16,500 results

RESULTS BY YEAR

TEXT AVAILABILITY

- Abstract
- Free full text
- Full text

1 Cite Share

Efficacy and effectiveness of live attenuated influenza vaccine in school-age children.

Coelingh K, Olajide IR, MacDonald P, Yogev R.

Expert Rev Vaccines. 2015;14(10):1331-46. doi: 10.1586/14760584.2015.1078732. Epub 2015 Sep 7.

PMID: 26372891 Review.

Evidence of high efficacy of live attenuated **influenza vaccine** (LAIV) from randomized controlled trials is strong for children 2-6 years of age, but fewer data exist for older school-age children. We reviewed the published data on efficacy and **effectiveness** o ...

2 Cite Share

Seasonal influenza vaccine in immunocompromised persons.

Bosaeed M, Kumar D.

Hum Vaccin Immunother. 2018 Jun 3;14(6):1311-1322. doi: 10.1080/21645515.2018.1445446. Epub 2018 Mar 21.

PMID: 29485353 Free PMC article. Review.

10 Cite Share

[No authors listed]

Med Lett Drugs Ther. 2020 Sep 21;62(1607):145-150.

PMID: 32960868 Corrected and republished. No abstract available.

16,500 results

Show more results

Embase®

Search | Emtree | Journals | Results | My tools | Register | Login | (1)

Results

Select Language

'covid'/exp OR covid

Search | Mapping | Date | Sources | Fields | Quick limits | EBM | Pub. types | Languages | Gender | Age | Animal | Search tips

Results Filters

+ Expand — Collapse all | Apply

- Sources
- Drugs
- Diseases
- Devices
- Floating Subheadings
- Age
- Gender
- Study types
- Publication types
- Journal titles
- Publication years
- Authors
- Conference Abstracts
- Drug Trade Names

History Save | Delete | Print view | Export | Email | Combine | using And Or | Collapse

#1 'covid'/exp OR covid 92,811

92,811 results for search #1 | Set email alert | Set RSS feed | Search details | Index miner

Results View | Print | Export | Email | Order | Add to Clipboard 1 — 25

Select number of items | Selected: 0 (clear) | Show all abstracts | Sort by: Relevance Author Publication Year Entry Date

1 Docking study of naringin binding with COVID-19 main protease enzyme
Amin Hussen N.H.
[In Process] *Iraqi Journal of Pharmaceutical Sciences* 2021 29:2 (231-238)
Embase | Abstract | Index Terms | View Full Text | Similar records

2 Defining the features and duration of antibody responses to SARS-CoV-2 infection associated with disease severity and outcome
Röltgen K., Powell A.E., Wirz O.F., Stevens B.A., Hogan C.A., Najeeb J., Hunter M., Wang H., Sahoo M.K., Huang C., Yamamoto F., Manohar M., Manalac J., Otrelo-Cardoso A.R., Pham T.D., Rustagi A., Rogers A.J., Shah N.H., Blish C.A., Cochran J.R., Jardetzky T.S., Zehnder J.L., Wang T.T., Narasimhan B., Gombar S., Tibshirani R., Nadeau K.C., Kim P.S., Pinsky B.A., Boyd S.D.
Science Immunology 2021 5:54 Article Number 0240
Embase MEDLINE | Abstract | Index Terms | View Full Text | Similar records

3 Management of COVID-19 in comorbidities
Cardamone C., Donatiello I.
[In Process] *Italian Journal of Medicine* 2021 14:4 (223-227)
Embase | Al... Terms | View Full Text | Similar records

4 Contrived pu... COVID-19 communication noise
Sorooshian S., K...
[In Process] *Italian*... 2021 14:4 (247-248)

Cochrane Library

Trusted evidence.
Informed decisions.
Better health.

English English Sign In

Cochrane Reviews Trials Clinical Answers About Help About Cochrane

Explore new Cochrane Library features **here**.

Advanced Search

Search | Search manager | **Medical terms (MeSH)** | PICO search BETA

View saved searches | Search help

Did you know the MeSH browser features are also available on the Search manager tab by selecting the MeSH button?
Search manager lets you add unlimited search lines, view results per line, and select fields using the S button (next to the search box).

Low Back Pain | Select subheadings / qualifiers | Look up | Clear

Importance of Effective Article Search

- - Saves time and effort
- - Ensures access to relevant and high-quality research
- - Improves the quality of your own academic work

Understanding Journal Quartiles

- Journals ranked Q1–Q4 based on impact factor
- Q1: Top 25% ... Q4: Bottom 25%
- Databases: Scopus (SJR), Web of Science (JCR)

Results

Select Language

'covid'/exp OR covid

Search > Mapping Date Sources Fields Quick limits EBM Pub. types Languages Gender Age Animal Search tips

Results Filters

+ Expand — Collapse all Apply >

- Sources
- Drugs
- Diseases
- Devices
- Floating Subheadings
- Age
- Gender
- Study types
- Publication types
- Journal titles
- Publication years
- Authors
- Conference Abstracts
- Drug Trade Names

History Save | Delete | Print view | Export | Email Combine > using And Or Collapse

#1 'covid'/exp OR covid 92,811

92,811 results for search #1 Set email alert Set RSS feed Search details Index miner

Results View | Print | Export | Email | Order | Add to Clipboard 1 — 25 >

Select number of items Selected: 0 (clear) Show all abstracts | Sort by: Relevance Author Publication Year Entry Date

1 Docking study of naringin binding with COVID-19 main protease enzyme
Amin Hussen N.H.
[In Process] *Iraqi Journal of Pharmaceutical Sciences* 2021 29:2 (231-238)
Embase Abstract Index Terms View Full Text Similar records >

2 Defining the features and duration of antibody responses to SARS-CoV-2 infection associated with disease severity and outcome
Röltgen K., Powell A.E., Wirz O.F., Stevens B.A., Hogan C.A., Najeeb J., Hunter M., Wang H., Sahoo M.K., Huang C., Yamamoto F., Manohar M., Manalac J., Otrelo-Cardoso A.R., Pham T.D., Rustagi A., Rogers A.J., Shah N.H., Blish C.A., Cochran J.R., Jardetzky T.S., Zehnder J.L., Wang T.T., Narasimhan B., Gombar S., Tibshirani R., Nadeau K.C., Kim P.S., Pinsky B.A., Boyd S.D.
Science Immunology 2021 5:54 Article Number 0240
Embase MEDLINE Abstract Index Terms View Full Text Similar records >

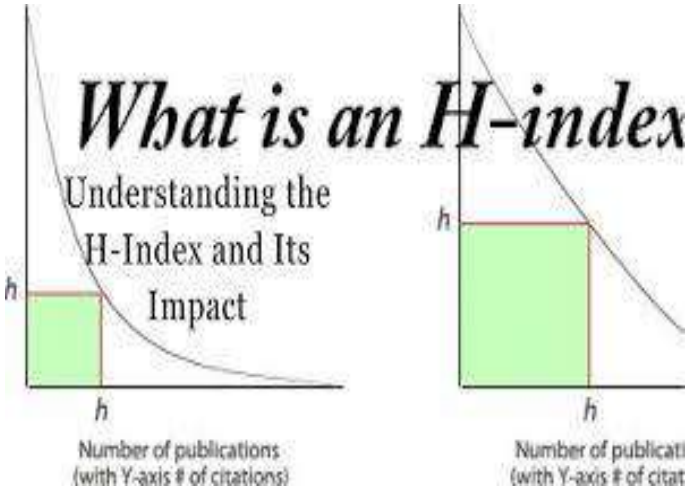
3 Management of COVID-19 in comorbidities
Cardamone C., Donatiello I.
[In Process] *Italian Journal of Medicine* 2021 14:4 (223-227)
Embase Abstract Index Terms View Full Text Similar records >

4 Contrived publications and COVID-19 communication noise
Sorooshian S., Kumar S.
[In Process] *Italian Journal of Medicine* 2021 14:4 (247-248)

Terms Related To Quartiles

What is an H-Index?

The h-index captures research output based on the total number of publications and the total number of citations to those works, providing a focused snapshot of an individual's research performance



If a researcher has 15 papers, each of which has at least 15 citations, their h-index is 15

Useful For

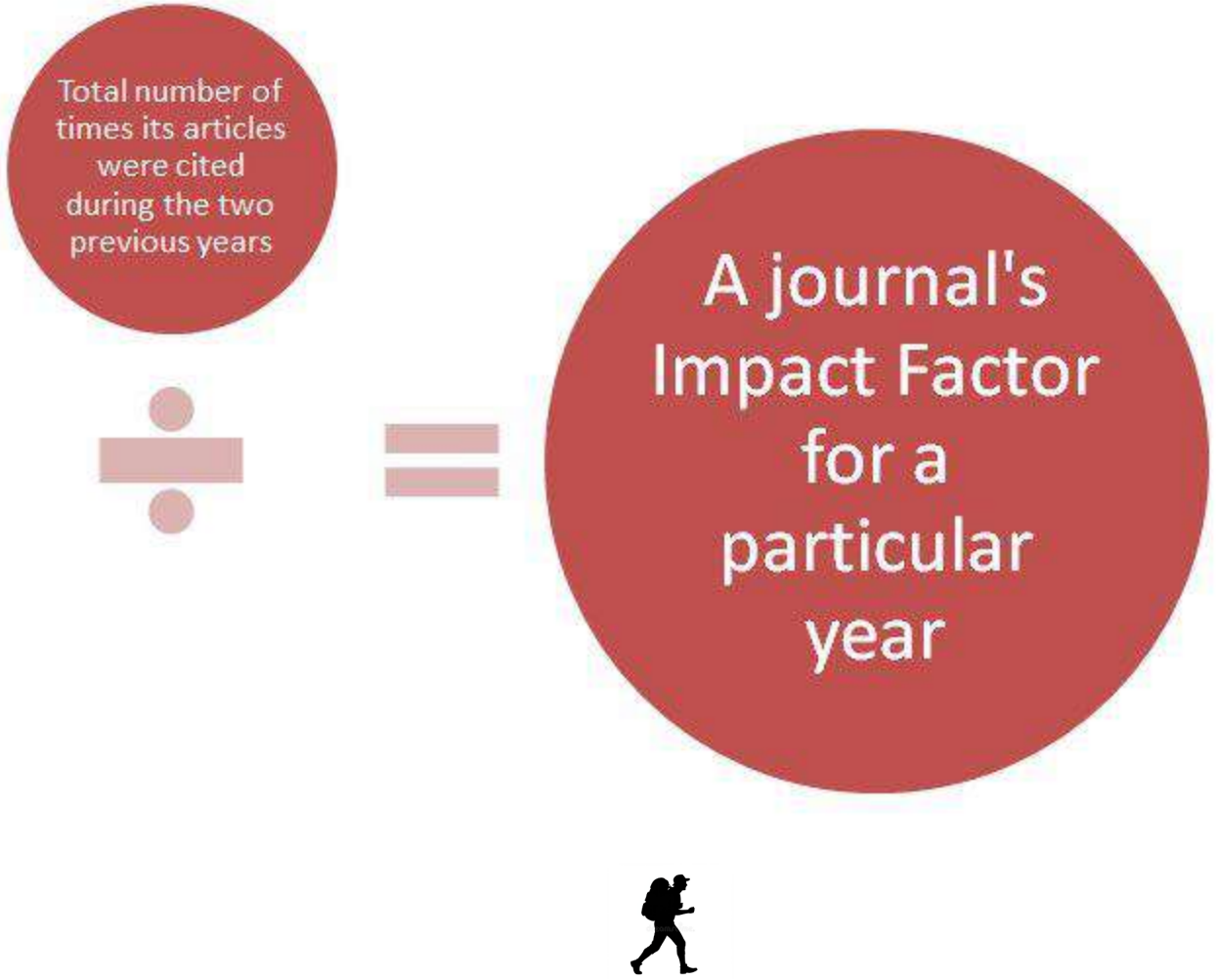
Comparing researchers of similar career length

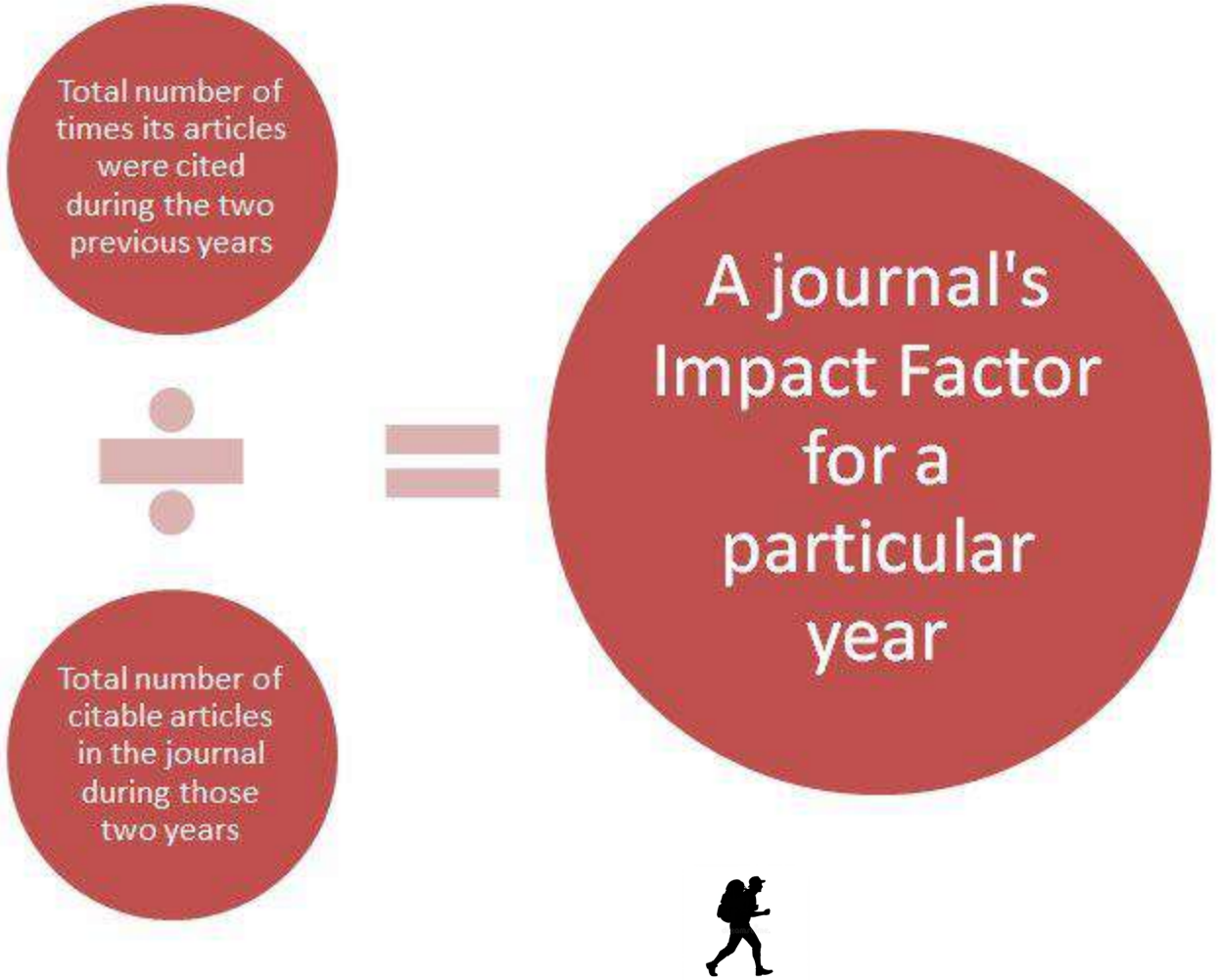
Comparing researchers in a similar field, subject, or Department, and who publish in the same journal categories

Obtaining a focused snapshot of a researcher's performance

What is Impact Factor?

Impact Factor is ideal for assessing a journal's reputation


Total number of times its articles were cited during the two previous years
A journal's Impact Factor for a particular year


Total number of times its articles were cited during the two previous years
÷
Total number of citable articles in the journal during those two years
=
A journal's Impact Factor for a particular year

Let’s address the fundamental question – What are impact factors and why should one aspire to publish in high impact factor journals?

enago academy
Learn. Share. Discuss. Publish.

1. Good Impact Factor:

above 5 or 10 -high.

2. Average Impact Factor:

between 1 and 5 -average

3. Low or Bad Impact Factor:

between 0 and 1 -low

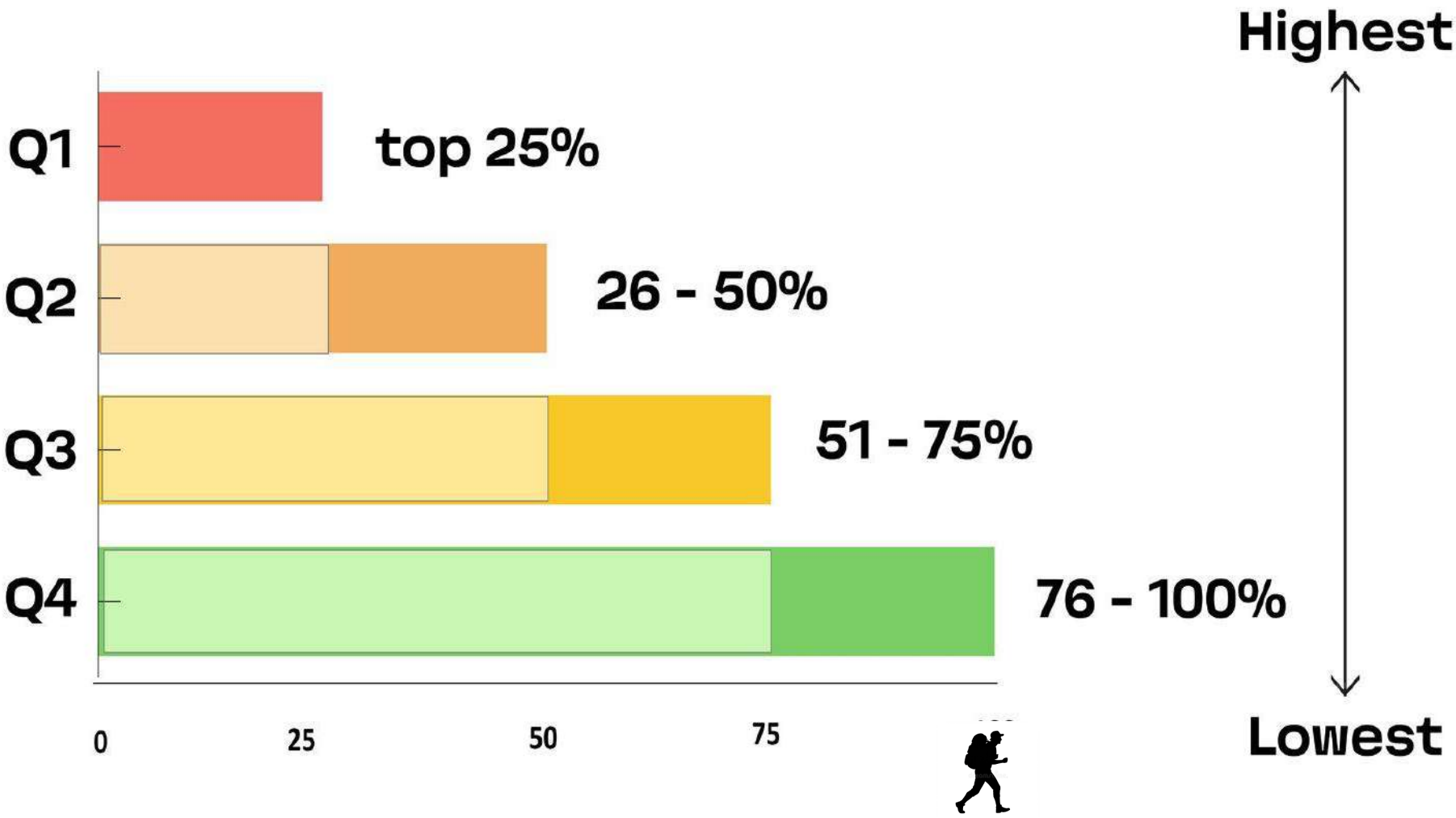
Sr. No.	Journal	Impact Factor
1.	CA-A Cancer Journal for Clinicians	254.7
2.	Lancet	168.9
3.	New England Journal of Medicine	158.5
4.	JAMA-Journal of the American Medical Association	120.7
5.	Nature Reviews Drug Discovery	120.1
6.	Nature Reviews Molecular Cell Biology	112.7
7.	BMJ-British Medical Journal	105.7
8.	Nature Reviews Immunology	100.3
9.	World Psychiatry	73.3
10.	Lancet Psychiatry	64.3

Getting published in a high-impact journal is a significant milestone for researchers

One of the most widely used ranking systems is the journal quartiles, which helps to assess the quality and impact of scholarly journals within a specific field

Journal quartiles categorize journals into Impact Factor is ideal for assessing a journal's reputation within a discipline

These groups are designated as Q1, Q2, Q3, and Q4


Highest
Q1
top 25%
Q2
26 - 50%
Q3
51 - 75%
Q4
76 - 100%
0
25
50
75
Lowest

Q1 journals represent the top 25% of publication with highest impact, featuring the most influential and widely cited research

Conversely, Q4 journals fall within the bottom 25%, typically indicating lower visibility and citation rates

It’s important to note that journal quartile rankings can vary significantly across disciplines, reflecting differences in publication volume, citation practices, and research trends

This classification helps researchers, institutions, and funding bodies evaluate the

- credibility of journals
- make informed publishing decisions
- and enhance the reach and influence of one’s research

Journal Quartile Rankings

Q1

- High impact factor
- Widely read and cited
- Rigorous peer review
- Examples: Nature, Science

Q2

- Moderate impact factor
- Good visibility and readership
- Balanced between general and niche content
- Examples: BMJ Open Gastroenterology, Cancer Causes and Control

Q3

- Specific audience focus
- Fewer citations but reliable research
- Examples: Open Access Rheumatology: Research and Reviews, Oncology Letters

Q4

- Emerging or niche journals
- Limited citations and readership
- Examples: Journal of Spectral Imaging, Kobe Journal of Medical Sciences

enago academy
Learn. Share. Discuss. Publish.

Reference: Q1 Q2 Q3 Q4 journals list: Scopus Quartile ranking - PhDTalks

From Q1 to Q4: Understanding journal quartiles for effective journal selection

Q1

- High impact factor
- Widely read and cited
- Rigorous peer review
- Examples: Nature, Science

Q2

- Moderate impact factor
- Good visibility and readership
- Balanced between general and niche content
- Examples: BMJ Open Gastroenterology, Cancer Causes and Control

Q3

- Specific audience focus
- Fewer citations but reliable research
- Examples: Open Access Rheumatology: Research and Reviews, Oncology Letters

Q4

- Emerging or niche journals
- Limited citations and readership
- Examples: Journal of Spectral Imaging, Kobe Journal of Medical Sciences

	Title	Type	SJR	H index	Total Docs. (2024)	Total Docs. (3years)	Total Refs. (2024)	Total Cites (3years)	Citable Docs. (3years)	Cites / Doc. (2years)	Ref. / Doc. (2024)	%Female (2024)	
1	Journal of Advanced Veterinary and Animal Research	journal	0.398 Q2	24	126	262	4766	547	261	1.96	37.83	37.70	
2	Bangladesh Journal of Medical Science	journal	0.278 Q3	18	167	461	5195	437	428	1.14	31.11	52.74	
3	Bangladesh Journal of Pharmacology	journal	0.248 Q3	32	15	60	435	45	44	0.81	29.00	48.78	
4	Journal of Advanced Biotechnology and Experimental Therapeutics	journal	0.240 Q3	12	53	155	2290	190	155	1.02	43.21	41.90	

The classification of journals into quartiles is based on citation metrics, which serve as indicators of a journal's impact within the academic community

The most commonly used metrics include the **Impact Factor** is ideal for assessing a journal's reputation,**h-Index**, **Eigenfactor Score**, and **the Scimago Journal Rank** (SJR)

These measures evaluate the frequency and significance of citations that articles in a journal receive, offering a quantitative way to compare journals within the same field. Let’s understand these metrics better with the help of the infographic below:

Key Metrics Influencing Quartile Rankings

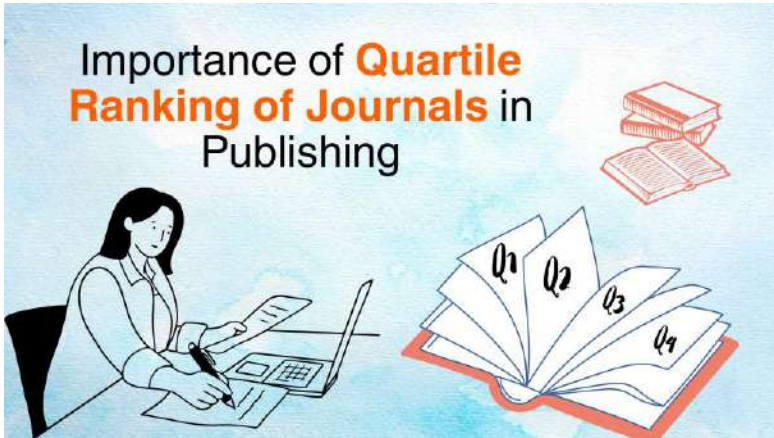
Metric	Impact Factor (IF)	h-Index	Eigenfactor Score	SCImago Journal Rank (SJR)
Definition	Measures average citations per article over a 2-year period.	Measures a journal's productivity and citation impact based on h most-cited papers.	Measures journal influence by weighting citations based on the prestige of the citing journal.	Ranks journals based on weighted citations from prestigious sources over 3 years.
Data Source	Web of Science (Clarivate)	Google Scholar, Scopus, Web of Science	Web of Science (Clarivate)	Scopus (SCImago)
Time Frame	2 years	Varies (lifetime measure)	5 years	3 years
Citation Weighting	All citations are treated equally.	All citations count equally, but impact depends on the number of highly cited papers.	Citations from prestigious journals carry more weight.	Citations from high-ranking journals have more influence.
Self-Citations	Included (can inflate the score).	Included	Reduced influence from self-citations.	Limited influence from self-citations.
Discipline Variability	Strongly varies by field.	Field-dependent, higher in citation-heavy fields.	Accounts for field differences.	Accounts for field differences.

Choosing the Right Platform for Your Research

- Q1 journals typically have a wider readership and higher citation rates, which can increase the reach of a research paper within the academic community

- A record of publishing in Q1 journals can enhance grant applications by demonstrating the quality and significance of the research

- Publishing in high-visibility journals can create opportunities for academic collaboration and professional recognition within a field



Understanding the role of journal quartiles

It helps researchers make informed decisions about

- where to submit their work
- how best to communicate their findings to the intended audience

Aligning Research with the Right Audience

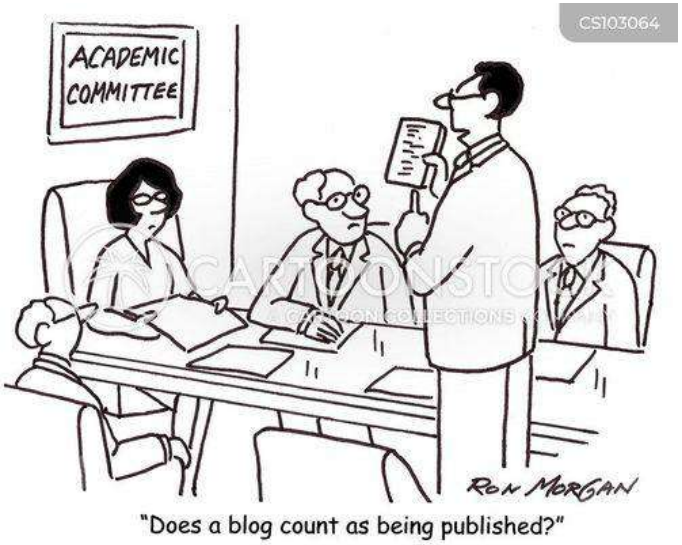
This approach helps researchers share their findings with the right audience, supporting their academic and professional growth

1. Assess the depth and scope of your research

Researchers may choose Q1 journals for high-impact studies with broad relevance, while they might find Q2–Q4 journals more suitable for specialized or preliminary work

2. Clarify your primary publishing goal

Whether it is visibility, career advancement, or reaching a niche audience. Aligning ones goals with the journal's strengths ensures a better fit



3. Use reputable journal selection tools

To avoid predatory journals, researchers often consult multiple trusted databases, such as Scopus, Web of Science, or DOAJ, which provides comprehensive indexing and verification

While Q1 journals offer significant advantages, publishing in these top-tier outlets is highly competitive

Their standards demand novel research with rigorous study design and compelling results

•Q1 journals have high rejection rates – often exceeding 90%, make acceptance challenging

•their time-intensive peer-review process further delays publication, which may not align with urgent career or project deadlines

To improve their chances of success, researchers should focus on conducting impactful research

Collaborating with experienced researchers can help refine the study methodology and elevate the quality of the work

Additionally, seeking professional editing and guidance from trusted services like Enago's Substantive Editing and Top Impact Scientific Editing, one can ensure that the research is clear and coherent

Publishing in Q2–Q4 journals can be a strategic and responsible choice

Especially, for early-career researchers looking to build their publication portfolio, gain visibility, and contribute meaningfully to their field

These journals often have a broader scope and may offer faster review and publication times, allowing research findings to reach the academic community more efficiently

By maintaining ethical publishing practices,
selecting journals that align with the research scope,
and prioritizing scientific integrity over journal rankings

researchers can maximize their academic impact and
achieve publication success

Why Journal Quartiles Matter

- Reflect impact/quality
- Useful for promotion & grants
- Prioritize high-quality sources

Take-Home Message

- ✅ Define Question Clearly
- ✅ Use Trusted Databases
- ✅ Understand Journal Quartiles
- ✅ Search Smartly
- ✅ Critically Appraise Results
- ✅ Stay Organized

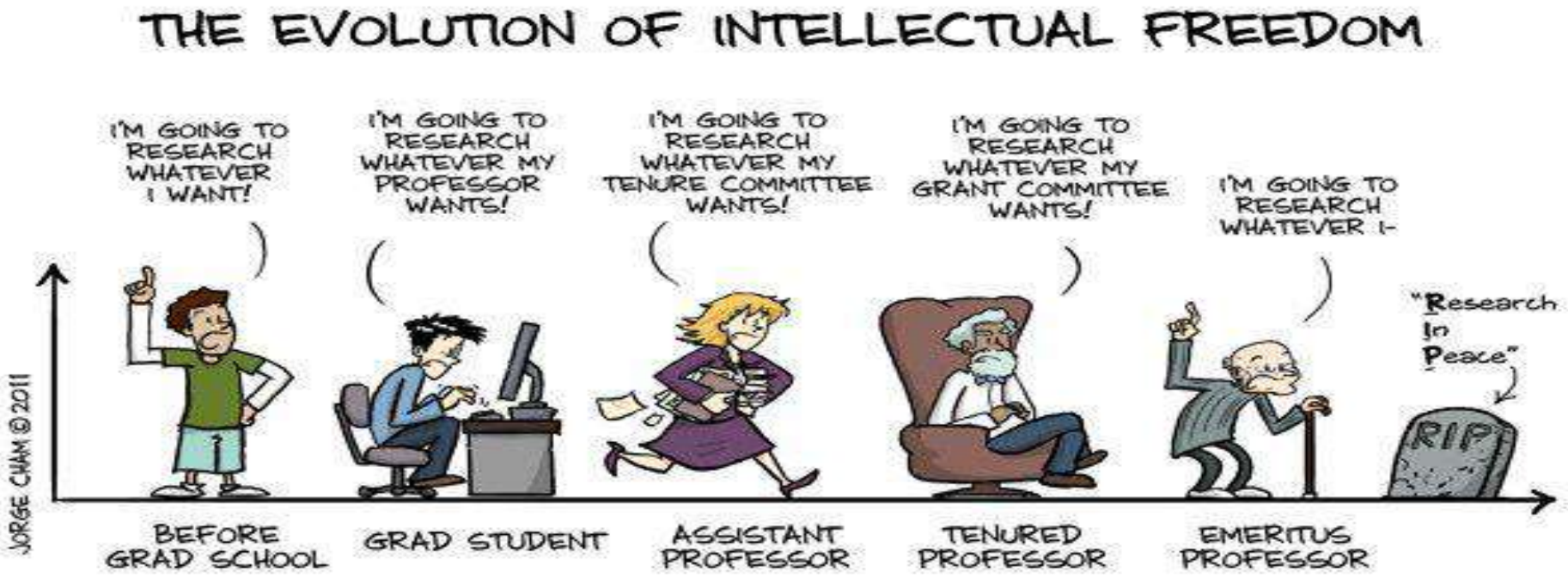
References

- **Grewal, A., Kataria, H., & Dhawan, I. (2016).** Literature search for research planning and identification of research problem. *Indian Journal of Anaesthesia*, 60(9), 635–639. https://doi.org/10.4103/0019-5049.190618
- **Booth, A. (2016).** Systematic approaches to a successful literature review. *SAGE Publications.*
- **Bramer, W. M., et al. (2018).** Optimal database combinations for literature searches in systematic reviews: a prospective exploratory study. *Systematic Reviews*, 6(1), 245. https://doi.org/10.1186/s13643-017-0644-y
- **Jadad, A. R., & Enkin, M. W. (2007).** Randomized Controlled Trials: Questions, Answers and Musings. *BMJ Books.*

- **SCImago Journal & Country Rank (SJR).**
  https://www.scimagojr.com
  (This site provides journal rankings and quartile information based on SCOPUS data.)
- **Journal Citation Reports (JCR), Clarivate Analytics.**
  https://jcr.clarivate.com
  (This is the official site for journal impact factors and quartile rankings.)
- **Elsevier Journal Metrics.**
  https://journalmetrics.scopus.com
  (Details SNIP, SJR, CiteScore, etc. across disciplines.)

- **Bramer, W. M., et al. (2017).** De-duplication of database search results for systematic reviews in EndNote. *Journal of the Medical Library Association*, 105(1), 84–87. https://doi.org/10.5195/jmla.2017.11
- **Gusenbauer, M., & Haddaway, N. R. (2020).** Which academic search systems are suitable for systematic reviews or meta-analyses? Evaluating retrieval qualities of Google Scholar, PubMed, Scopus, and others. *Research Synthesis Methods*, 11(2), 181–217. https://doi.org/10.1002/jrsm.1378
- **University of Leeds Library.** (n.d.). Effective Search Techniques. https://library.leeds.ac.uk/info/14011/searching_and_finding_information/91/search_techniques
  (A practical guide for students on using search engines and Boolean

Thank You


THE EVOLUTION OF INTELLECTUAL FREEDOM
I'M GOING TO RESEARCH WHATEVER I WANT!
I'M GOING TO RESEARCH WHATEVER MY PROFESSOR WANTS!
I'M GOING TO RESEARCH WHATEVER MY TENURE COMMITTEE WANTS!
I'M GOING TO RESEARCH WHATEVER MY GRANT COMMITTEE WANTS!
I'M GOING TO RESEARCH WHATEVER I-
"Research In Peace"
RIP
BEFORE GRAD SCHOOL
GRAD STUDENT
ASSISTANT PROFESSOR
TENURED PROFESSOR
EMERITUS PROFESSOR
JORGE CHAM © 2011


TIME TO TALK