



EBP – A PYRAMID OF EVIDENCE

EVIDENCE-BASED PRACTICE MODULE

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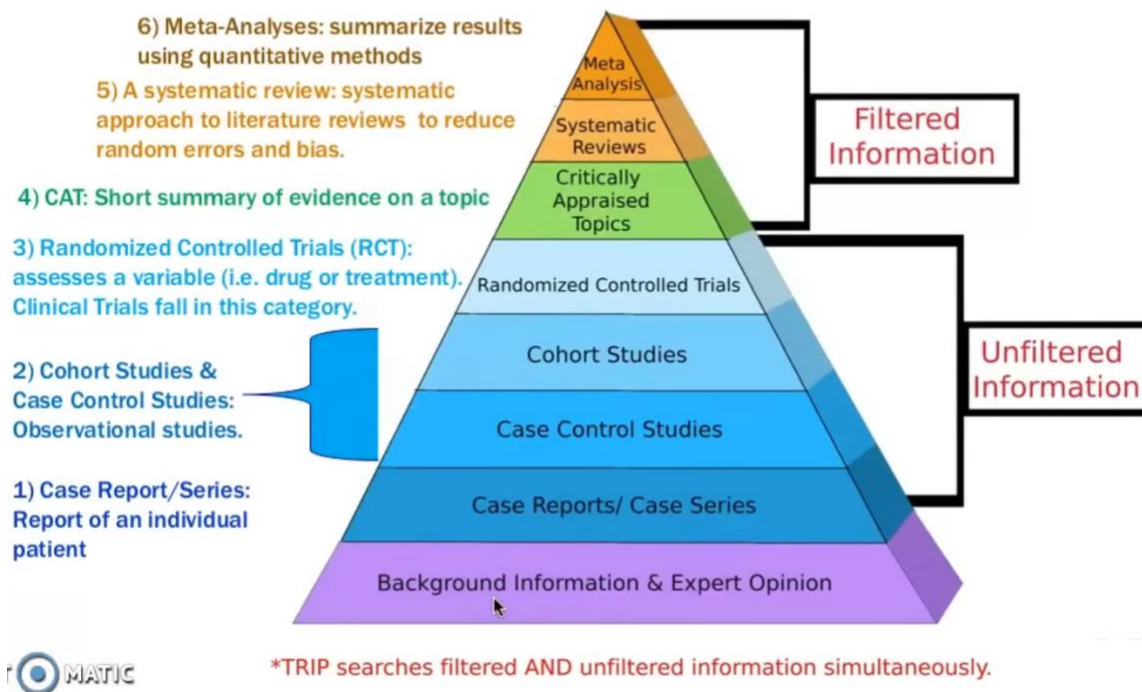
AT THE END OF THIS SESSION, YOU WILL BE ABLE TO:

- 1) Investigate six major types of evidence
- 2) Differentiate between filtered and unfiltered evidence
- 3) Evaluate websites using the pyramid of evidence in order to assess quality of information

“Levels of Evidence Pyramid” created by Andy Puro, GWU Himmelfarb Health Science Library, September 2014

The levels of evidence can be visualized as a pyramid, with the strongest and most reliable evidence at the top and weaker evidence at the bottom.

TYPES OF EVIDENCE



1)Background information & Expert opinion:

This information tends to be in text books and expert opinion ,it can be found in websites or blogs.

Expert opinion includes doctors, who may have an opinion on a procedure but it may not be at the level of a scholarly work.

2)Case reports and case series:

The first major type of evidence and these forms of evidence are reports of an individual patient. These are typically unique cases or detailed reports of symptoms, signs, diagnosis treatments and follow-up of an individual patient.Case reports may contain a demographic profile or novel occurrence.

3)Cohort studies and case control studies:

These are observational investigations conducted longitudinally.

4)RCT:

Assesses a variable, such as a drug or treatment. The subjects are randomly assigned to a treatment or control group, and this is done to minimize bias. The RCT is the gold standard for clinical trials.

5)CAT:

Is short summary of the evidence on a topic of interest and usually it is focused around a clinical question.

So CAT is like a shorter, less rigorous version of a systematic review. It summarizes the best research available or evidence on a topic. A clinical practice guideline falls into this area. They are a recommendation or statement intended to optimize patient care and are informed by a systematic review.

CAT becomes outdated if it doesn't update with newer information, giving it a short half-life.

5) Systematic reviews

Systematic reviews approach to literature reviews, aiming to minimize random errors and bias. These reviews, whether published or unpublished, are commonly found in databases like Cochrane or PubMed, where specific searches enhance precision.

In the evidence hierarchy, systematic reviews take precedence over narrative reviews when addressing focused clinical questions. Unlike narrative reviews, where practitioners rely on peer input like word of mouth, systematic reviews rigorously examine published evidence. Conducted through transparent and repeatable processes, systematic reviews consider the entirety of available literature to provide a comprehensive overview of a subject.

6)Meta Analysis:

At the top of pyramid, is a systematic reviews, it summarizes information from all studies on a specific clinical question across different databases. Unlike single studies, a systematic review looks at the complete range of relevant research on a topic. It helps determine if scientific findings are reliable and applicable to different populations. Systematic reviews also explore variations in treatment and whether findings differ significantly among different groups of people. It provides a thorough and broad view of the available scientific evidence. Using statistical methods "quantitative method" to summarize results.

-Filtered and unfiltered information:

Unfiltered information refers to data that hasn't undergone external filtering and often takes the form of experiments or trials. In a randomized control trial, there's typically a controlled group or a placebo involved. Essentially, unfiltered information is similar to the experiment

itself—where you propose a hypothesis, conduct tests, obtain results, and draw conclusions. You are actively engaged as the primary source of data gathering in this process.

In cohort studies, case-control studies, and case reports, the data isn't necessarily filtered through experimental design. However, as primary data gatherers, researchers employ methodology, such as observational techniques in case reports, ensuring the information is methodically determined.

The unfiltered information, situated in the middle of the pyramid, is essentially shaped by the researcher's approach. Contrastingly, at the top of the pyramid, we find filtered information, which includes CATs, systematic reviews, and meta-analyses. These represent a distilled and scrutinized synthesis of evidence, providing a higher level of reliability in the hierarchy of information.

filtered information section at the top of the pyramid, researchers take unfiltered information and utilize quantitative(usually) or qualitative methods to filter information from the middle part of the pyramid. CATs focus on a select few recent studies, while systematic reviews collect information from various sources, databases, and multiple studies on a topic. Meta-analyses employ quantitative methods to analyze and synthesize outcomes.

TRIP searches filtered and unfiltered information simultaneously.

TRIP is actually a database, it is similar to Google but it will actually search for the information and it will only go to evidence to find the answers, it is a meta-search engine.

Where are blogs and Wikipedia in this pyramid?

Blogs and Wikipedia typically fall in the lower part of the evidence pyramid.

اللهم كن لأهلنا في غزّة العزّة عونًا و معيّنًا و مؤيدًا و نصيرًا، اللهم انصرهم على من عاداهم واخذل
من خذلهم، اللهم قوّهم وثبت أقدامهم، اللهم ارحم أهل غزّة ونجّهم من براثن اليهود، كما نجّيت نبيك
إبراهيم من نار النمرود.

اللهم قد ضاقت القلوب حُزنا على أهلنا في غزّة، اللهم قد سيطر العجز على قلوبنا، فكن لهم، اللهم لا حول لهم
إلّاك على من ظلمهم، فقد خذلتهم الأمة، وتخلّى عنهم الصّديق والقرب، اكتب لهم النّصر و التمكين و اجعلهم
من الشهداء يوم الدين.

Summary:

The levels of evidence form a pyramid, with the strongest evidence at the top and weaker evidence at the bottom.

1. Background information & Expert opinion:

- Found in textbooks, websites, or blogs.
- Includes opinions of experts, which may lack the scholarly rigor of formal works.

2. Case reports and case series:

- Describes individual patient cases in detail.
- Offers unique or detailed insights into symptoms, diagnosis, treatments, and follow-ups.

3. Cohort studies and case-control studies:

- Observational investigations conducted longitudinally.

4. RCT (Randomized Control Trial):

- Gold standard for clinical trials.
- Involves randomly assigning subjects to treatment or control groups to minimize bias.

5. CAT (Critically Appraised Topic):

- Short summary of evidence focused on a clinical question.
- Similar to a less rigorous version of a systematic review.
- Provides a concise overview of the best available research on a topic.

6. Systematic reviews:

- Rigorous examination of published evidence.
- Conducted through transparent and repeatable processes.
- Considers all available literature to offer a comprehensive overview of a subject.

7. Meta-analysis:

- Summarizes information from all studies on a specific clinical question.
- Utilizes statistical methods to synthesize results.
- Sits at the top of the pyramid, representing a distilled and scrutinized synthesis of evidence.

Filtered and unfiltered information:

- Unfiltered information is akin to experiments or trials, gathered by the researcher.
- In cohort studies, case-control studies, and case reports, data isn't necessarily filtered through experimental design.
- Filtered information, at the pyramid's top, includes CATs, systematic reviews, and meta-analyses, providing a more refined and reliable view.

TRIP (meta-search engine):

- Searches both filtered and unfiltered information simultaneously.
- Acts as a specialized database, focusing on evidence-based sources.

Blogs and Wikipedia:

- Fall in the lower part of the evidence pyramid.
- Considered less reliable compared to higher tiers due to the lack of rigorous peer review and systematic methodology.