Evidence-Based Practice critically assesses research to inform intervention and care. By conscientiously applying the principles of Evidence-Based Practice, we optimize therapeutic success.

How do we determine which interventions will most reliably benefit our clients? Personal clinical experience informs and professional colleagues may advise us, but many times we also rely upon the expertise of others to develop and test intervention strategies.

Applying the principles of Evidence-Based Practice enables effective treatment by balancing three basic principles:

1. determining the most valid scientific evidence for how an intervention works and what results we can reasonably expect;
2. using clinical judgement to evaluate each unique client’s health and diagnosis, weighing the potential benefits and risks of the intervention;
3. honoring our unique client’s values and respecting personal preferences with our intervention approach.

Conscientiously integrating these perspectives equips us to make informed, professional and sensitive decisions for treatment strategy, and implement an effective therapeutic intervention.

Our first step in applying Evidence-Based Practice is to develop an accurate, answerable clinical question. Framing the clinical question before evidence review reduces the occurrence of bias when choosing an appropriate intervention.

A well-constructed clinical question has four parts: a description of the patient or problem, potential intervention(s), comparison intervention(s) (including no intervention at all), and outcome. Once we have formulated this question, we have the guidance to seek relevant scientific evidence that justifies practice of an intervention with our client. When applying the principles of Evidence-Based Practice critically assesses research to inform intervention and care. By conscientiously applying the principles of Evidence-Based Practice, we optimize therapeutic success.

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Based Practice, we rank types of data hierarchically in the Quality of Evidence Pyramid (also known as “Sackett’s hierarchy of evidence”). The most complex research—and the most valuable for informing practice decisions— is at the top of the pyramid.

**The Quality of Evidence Pyramid**

**META-ANALYSIS** summarizes data from several studies—testing the research by identifying relationships, comparing and contrasting results—and yields statistical, weighted analysis of their findings. Meta-analysis is a type of systematic review.

**SYSTEMATIC REVIEWS** utilize explicit methods to comprehensively search for and critically evaluate individual scholarly and peer-reviewed studies.

**RANDOMIZED, CONTROLLED TRIALS** test treatments on subjects randomly assigned to either the control or experimental group.

**COHORT STUDIES** are longitudinal, observational studies that follow two samples (cohorts) of participants over time—often many years—to identify and evaluate factors leading to alternative outcomes.

**CASE-CONTROL STUDIES** are retrospective, observational studies that compare samples of cases (participants presenting symptoms or with a disorder) with controls (people without symptoms or a disorder), evaluating potential factors leading to different outcomes.

**CROSS-SECTIONAL SURVEYS** observe a single sample at a single point in time to determine relationships among variables.

**CASE REPORTS** are uncontrolled, observational accounts of events and outcomes of a single case.

**BACKGROUND INFORMATION** includes general knowledge from a variety of print and online sources, including dictionaries, encyclopedias and other reference books.

**EXPERT OPINIONS** usually are published in academic and trade journals. To qualify as an expert, the author should provide reputable credentials and show experience in the field.
Critiques of Current Scientific Study

While it is important to understand that there are varied levels of strength inherent in different types of evidence, it is also valuable to recognize critiques of current scientific study on which evidence is based. One critique is that scientific study is becoming so overspecialized that it is easy to lose sight of the complex functioning of systems and consequently difficult to make beneficial recommendations based on scientific studies. There are also increasing levels of discontent with the manipulation of science for the benefit of special interests. These factors combined may result in flawed or misleading science that critics say is becoming common.

For example, after spending two decades in the industry, Marcia Angell, MD, a former editor-in-chief of The New England Journal of Medicine, wrote that she has become “increasingly troubled by the possibility that much published research is seriously flawed.”

Another recent statement, by Richard Horton, editor-in-chief of The Lancet, sums up the dysfunctions inherent in our current system of scientific study: “The case against science is straightforward: much of the scientific literature, perhaps half, may simply be untrue. Afflicted by studies with small sample sizes, tiny effects, invalid exploratory analyses, and flagrant conflicts of interest, together with an obsession for pursuing fashionable trends of dubious importance, science has taken a turn towards darkness.”

It is prudent to balance our knowledge of science with real-life experience and observable phenomena such as what is offered through case studies, especially in instances where the case studies are very numerous and consistent in their outcomes. When multiple case studies consistently point to observable beneficial outcomes, then rigorous, unbiased studies are warranted and ideally supported through funding and resources.

A TOOL FOR EVALUATING EVIDENCE HIERARCHY

The University of Washington Health Sciences Library groups evidentiary sources by Quality of Evidence Pyramid levels and offers links to metasearch engines:

guides.lib.uw.edu/friendly.php?si=hslebptools

References


