

Five Minute Science Lesson: Five-minute Science Lesson: A short FAQ on EBP(Evidence-Based Practice)

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What is evidence based practice?

Discussion of evidence-based practice (EBP) is an evolution of the discussion of evidence-based medicine (EBM). EBP extends to all allied health professions (e.g., dentistry, nursing, psychology, physical and occupational therapy). EBP also extends to evidence-based law (EBL) and the formation of laws, regulations and public policies based on the best available evidence, and evidence-based forensic science (the application of available scientific knowledge to field practices and investigative work that may become a basis of information for legal processes). EBM also extends to evidence-based management (EBMgt), in which organizational practices and managerial decisions are aligned with evidence from available research. The goals of EBM and EBP are to improve the effectiveness of decisions and outcomes for individuals and groups by quantifying and reducing variation and error in field practice contexts where decisions are subject to some degree of inherent uncertainty and individual differences.

Is there a process model for evidence- based practice?

It is helpful when making use of any new or abstract concept to define a process model or procedure so that we can more easily observe whether the idea can be implemented in meaningful and practical ways. A well-defined process model will also permit the abstracted study of outcomes or effects that may be observed after implementation. EBP can be thought of as consisting of several steps: 1) define the referral problem based on the case facts and the current professional practice standards, 2) survey the current published knowledge base for evidence pertaining to the referral problem, 3) evaluate the available evidence relevant to the referral problem, and 4) select a course of action that is supported by the available evidence and consonant with the needs and goals of the referral. A final aspect of EBP is that of post-hoc review, audit and feedback so that professionals can continue to incorporate additional information into their future decision processes.

Does EBP amount to a “one-size-fits-all” or “cookbook” approach that rejects the role of expertise and individual preferences?

No. Particularly in medical and allied healthcare contexts, the selection of interventions intended to help patients is defined as a conscientious problem-solving approach to clinical practice. In this way, EBP incorporates patient preferences as to available



medical treatments, rehabilitation approaches, psycho-therapeutic interventions, and adaptive services. In the forensic context, evidence-based practice decisions can be influenced by practical considerations that can include both ethics with regard to potential error, and economic factors such as potential values and potential costs.

How do un-reproducible scientific results impact evidence-based practices?

Although some degree of variation is always expected in scientific research, published results that cannot be reproduced are a source of concern and confusion. For this reason, replication is an important and ongoing aspect of the scientific process. In addition, systematic review of available published research are an important aspect of EBP. When results cannot be reproduced or replicated, it is not interpreted as a reason to reject or abandon the scientific and research processes, but is instead regarded as evidence of the importance of need for both competency and transparency in the research processes. For example: a result of observed problems in the reproducibility of published research in psychology is the development of improved statistical and research protocols.

How does evidence-based practice help the public?

EBP helps to protect the interests of the public and individuals by decreasing subjectivity, bias, and uncertainty and increasing objectivity and reproducibility in professional decision-making. EBP decreases the likelihood that professional decisions are based subjective or personal views of the professionals when these are not consistent with published evidence.

How does evidence-based practice help professionals?

EBP helps to protect the interests of the various professional contexts by formalizing reasonable expectations that professional practices are not developed in unscientific or pseudoscientific ways that would be more likely to result in adverse outcomes for individuals and groups, loss of trust towards a profession and potential exposure to liability or other recourse.

What are the main criticisms of or objection to evidence-based practice?

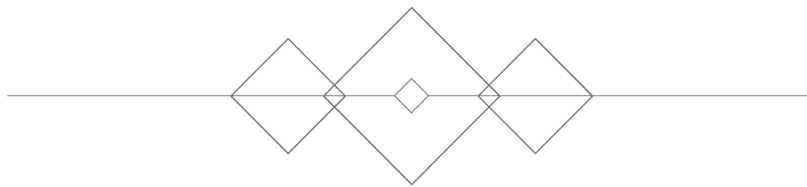
One objection to EBP is that evidence is not yet available to support decisions or conclusion in all contexts. It is sometimes the case that “we don’t yet know” is the correct and responsible answer – though this is understandably frustrating in situations for which some form of action may be required. Some arguments to EBP are philosophical and ethical, with the emphasis on subjective human expertise as a primary locus of responsibility. Some authors have noted that some published objections have



been based on ad-hominem positions, misunderstanding of EBP, and bias towards tradition.

What are alternatives to evidence-based practice?

Professional practices that are not supported by evidence may be standardized based on a concurrence of expert opinion or emerging evidence. Contexts in which evidence is not available to support a structured and systematic solution may rely on unstructured clinical expertise. However, practices that are supported by neither evidence nor expert consensus standards may be vulnerable to suggestion that they are experimental practices and therefore subject to additional ethical considerations.



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