

■ Evidence-Based Practice and the Journal of Manual Manipulative Therapy

Evidence-based practice (EBP) is clearly the current predominant paradigm in health care with many medical programs and schools for other health professionals implementing and having implemented courses or even whole curricula based on EBP. This is a far cry from my own undergraduate physical therapy training where everything I learned seemed based on a basic science rationale and on the clinical experience and opinions of authorities in the field. It was not until my first graduate degree that I was introduced--still in a somewhat haphazard manner--to research studies upon which I could base at least some decisions related to diagnosis, prognosis, potential harm, and intervention. This lack of research-based knowledge may, of course, have had something to do with a general dearth of research studies available in rehabilitation sciences at that time. It is no wonder that I initially thought that undergraduate courses on statistics and research methodology were little more than curriculum fillers.

However, the situation has most definitely changed. Now there is a true cornucopia of research relevant to rehabilitation sciences available to the interested clinician. Every year the amount of studies seems to double. Applying sound research evidence to determine and then apply the most effective and efficient method of diagnosis, prognosis, prevention of harm, and intervention in the management of our patients is an obvious necessity, not only to secure the best possible outcomes but also to ensure optimal allocation of limited health care, societal, and personal resources. The relevant question is this: How can a busy clinician keep up with all this new evidence that is continuously being produced?

EBP has been defined as the process of integrating the best research evidence available with both clinical expertise and patients' values¹. As such, EBP represents a paradigm shift away from the traditional paradigm predominant in medicine and other health professions up until about a decade ago, the paradigm in which I and likely many of you were educated and which was based mainly on the authority-based knowledge and basic science rationale mentioned above. In the new EBP paradigm, intuition, unsystematic clinical experience, and pathophysiologic rationale no longer constitute sufficient grounds for clinical decision-making. Instead, this paradigm stresses the examination of evidence from clinical research based on a formal set of rules to help clinicians effectively interpret the results of that research².

From the definition of EBP used above, it is clear that we do not need to discard all we once held dear in terms of authority-based and experience-based knowledge. Patient and clinician experience with, and preference for, a specific diagnostic, prognostic, or therapeutic intervention remains an essential part of EBP. Nor should what we consider evidence be limited to data derived from methodologically rigorous research, such as cohort studies, randomized controlled trials, systematic reviews, and meta-analyses. Guyatt et al² suggested defining evidence as any empirical observation about the apparent relation between events. Therefore, clinician experience and basic science research are still considered sources of evidence within the EBP paradigm, albeit ones that are located lower in the hierarchy of possible evidence in this new paradigm^{2,3}. The patient still ultimately provides an informed consent after a comprehensive education on potential harm or benefit from a diagnostic, prognostic, or therapeutic intervention. And, of course, professional responsibility and clinician expertise determine whether we apply a specific intervention even after obtaining that consent.

EBP offers the clinician quick access to an ever-expanding body of relevant research literature by way of preprocessed evidence in the form of randomized clinical trials, systematic reviews, meta-analyses, clinical decision rules, and clinical practice guidelines². The potential that EBP has for improving patient care is

clear (albeit often unproven). So why is there such resistance in medicine and the other health professions to adopting this new paradigm? It might be the fear that clinical prediction rules and clinical practice guidelines will put an end to the autonomy of the individual clinician to make decisions about the diagnostic and prognostic tests or interventions used. The definition of EBP introduced above clearly shows that this is a misconception. There are, however, more substantial criticisms to EBP⁴:

- Differing values among researchers can lead to dissimilar clinical interpretations despite identical evidence.
- No relevant direct evidence from basic or applied research may exist to answer our specific questions.
- External validity of research and, therefore, relevance to the patient population with which we work may be in question.
- Meta-analyses and systematic reviews may provide us with inconclusive or inconsistent evidence.
- Limited health care resources may present financial boundaries to the implementation of EBP recommendations.
- In the EBP paradigm, the already busy clinician must acquire and develop new skills in literature searching, critical appraisal, and statistics.

So how does the EBP paradigm affect the Journal? It is my opinion that we, as orthopaedic manual therapy (OMT) clinicians, cannot ethically afford to ignore EBP because of its potential for improvement in patient care. As the Editor-in-Chief of a peer-reviewed journal, I find myself in a unique position to, mainly thanks to contributing authors and the editorial staff of the Journal, be able to translate this opinion into active support for the new paradigm. The Journal will continue to publish and thus make accessible to the OMT clinician high-level evidence in OMT in the form of randomized controlled trials and systematic reviews. However, it is clear to all of us that in the field of OMT there is still a strong need to integrate such high-level research-based knowledge with pathophysiologic rationale and clinical experience and expertise to produce clinical reasoning models, which guide diagnosis, prognosis, and intervention for our patients. Narrative reviews, case reports, and basic science studies may represent a lower level of evidence within the EBP paradigm³, but they still serve an important role, especially within OMT, as a basis for discussion among clinicians and as a means to produce research topics for more rigorous studies. Therefore, unlike some other journals in rehabilitation sciences that seem to shun narrative reviews, case reports, and basic science studies in favor of research studies producing higher-level evidence, the Journal will continue to welcome such submissions. However, we will place a greater emphasis than before on including data on reliability, validity, and where available, minimal detectable change and minimal clinically important differences, in order to help our readers with the critical interpretation of the data as befitting a true evidence-based clinician.

REFERENCES

1. Sackett DL, et al. *Evidence-Based Medicine: How to Practice & Teach EBM*. New York, NY: Churchill Livingstone, 1997.
2. Guyatt G, et al. Introduction to the philosophy of evidence-based medicine. In: Guyatt G, Rennie D, eds. *User's Guide to the Medical Literature: A Manual for Evidence-Based Clinical Practice*. Chicago, IL: AMA Press, 2002.
3. Levels of Evidence and Grades of Recommendation [Website]. Available at: http://www.cebm.net/levels_of_evidence.asp. Accessed April 22, 2005
4. Straus S, et al. Expanded philosophy of evidence-based medicine. In: Guyatt G, Rennie D, Eds. *User's Guide to the Medical Literature: A Manual for Evidence-Based Clinical Practice*. Chicago, IL: AMA Press, 2002.

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