Part I

Principles of Evidence-Based Physical Therapist Practice
Chapter 1

Evidence-Based Physical Therapist Practice

Nothing could be more humanistic than using evidence to find the best possible approaches to care.

—Jules Rothstein, PT, PhD

Objectives
Upon completion of this chapter the student/practitioner will be able to:

1. Discuss the circumstances that have resulted in an increased emphasis on the use of evidence in practice.
2. Distinguish among definitions of evidence-based medicine, evidence-based practice, and evidence-based physical therapy.
3. Discuss the use of evidence in physical therapist decision making in the context of the Guide to Physical Therapist Practice.
4. Describe evidence-based physical therapy focus areas.
5. Describe the general steps involved in evidence-based physical therapist practice.
6. Discuss the barriers to evidence-based physical therapy and possible strategies for reducing them in clinical practice.

Terms in This Chapter

Activity limitations (ICF model): “Difficulties an individual may have in executing activities.”

Biologic plausibility: The reasonable expectation that the human body could behave in the manner predicted.

Clinical expertise: Proficiency of clinical skills and abilities, informed by continually expanding knowledge, that individual clinicians develop through experience, learning, and reflection about their practice.

Diagnosis: “A process that integrates and evaluates data” obtained during a patient/client examination, often resulting in a classification that guides prognosis, the plan of care, and subsequent interventions.

Disability (Nagi model): “The inability or restricted ability to perform actions, tasks, and activities related to required self-care, home management, work (job/school/play), occupation, leisure, and recreation.”
community, and leisure roles in the individual’s sociocultural context and physical environment.\textsuperscript{2(p.31)}

**Evaluation:** “A dynamic process in which the physical therapist makes clinical judgments based on data gathered during the examination.”\textsuperscript{2(p.43)}

**Evidence:** “Any empirical observation about the apparent relation between events constitutes potential evidence.”\textsuperscript{6(p.6)}

**Examination:** “A comprehensive screening and specific testing process leading to diagnostic classification or, as appropriate, referral to another practitioner.”\textsuperscript{2(p.42)}

**Functional limitations (Nagi model):** “Occur when impairments result in a restriction of the ability to perform a physical action, task or activity in an efficient, typically expected, or competent manner.”\textsuperscript{2(p.30)}

**Impairment (ICF model):** “Problems in body functions or structure such as a significant deviation or loss.”\textsuperscript{3}

**Impairment (Nagi model):** “Alterations in the anatomical, physiological or psychological structures or functions that both (1) result from underlying changes in the normal state and (2) contribute to illness.”\textsuperscript{2(p.30)}

**Intervention:** The purposeful use of various physical therapy procedures and techniques, in collaboration with the patient/client and, when appropriate, other care providers, in order to effect a change in the patient/client’s condition.\textsuperscript{2}

**Outcome:** “The end result of patient/client management, which include the impact of physical therapy interventions;” may be measured by the physical therapist or determined by self-report from the patient/client.\textsuperscript{2(p.45)}

**Pathology (Nagi model):** A disease, disorder, or condition that is “primarily identified at the cellular level” and is “(1) characterized by a particular cluster of signs and symptoms and (2) recognized by either the patient/client or the practitioner as ‘abnormal.’”\textsuperscript{2(p.29)}

**Participation restrictions (ICF model):** “Problems an individual may experience in involvement in life situations.”\textsuperscript{3}

**Patient-centered care:** Health care that “customizes treatment recommendations and decision making in response to patients’ preferences and beliefs…. This partnership also is characterized by informed, shared decision making, development of patient knowledge, skills needed for self-management of illness, and preventive behaviors.”\textsuperscript{7(p.3)}

**Prevention:** Activities that attempt to (1) prevent a “target condition in susceptible or potentially susceptible populations” (primary prevention); (2) decrease the “duration of illness, severity of disease, and sequelae through early diagnosis and intervention” (secondary prevention); and (3) limit “the degree of disability and promote rehabilitation and restoration of function in patients with chronic and irreversible diseases” (tertiary prevention).\textsuperscript{2(p.41)}

**Prognosis:** Prediction of the natural course of a condition or its development based on previously identified risk factors; also, “the predicted optimal level of improvement through intervention and the amount of time required to achieve that level.”\textsuperscript{2(p.46)}
Introduction

Use of evidence in clinical decision making is promoted extensively across health care professions and practice settings. Gordon Guyatt, MD, David L. Sackett, MD, and their respective colleagues have published the definitive works that instruct physicians in the use of evidence in medical practice. In addition, federal agencies including the Agency for Healthcare Research and Quality and the Centers for Medicare and Medicaid Services evaluate the strength of published evidence during the development of health care policies and clinical guidelines. Professional associations such as the American Medical Association, the American Heart Association, and the American Occupational Therapy Association have developed resources to help their members and consumers access evidence regarding a wide variety of diseases, treatments, and outcomes.

The physical therapy profession also has expressed a commitment to the development and use of evidence. The American Physical Therapy Association envisions that by 2020 physical therapists will be autonomous practitioners that, among other things, use evidence in practice. Numerous articles regarding the methods for, benefits of, and barriers to evidence-based practice have been published in the journal Physical Therapy. For several years the journal also included a recurring feature, “Evidence in Practice,” in which a patient case was described and the subsequent search for, evaluation, and application of evidence was illustrated. More recently the journal has added features such as “The Bottom Line” and podcasts to facilitate the translation of evidence into practice. Finally, the American Physical Therapy Association has created “Hooked on Evidence,” a database of research articles regarding physical therapy interventions for use by its members in clinical practice.

The ground swell of interest in the use of evidence in health care has resulted from the convergence of multiple issues, including (1) extensive documentation of apparently unexplained practice variation in the management of a variety of conditions, (2) the continued increase in health care costs disproportionate to inflation, (3) publicity surrounding medical errors, (4) identification of potential or actual harm resulting from previously approved medications, and (5) trends in technology assessment and outcomes research. In addition, the rapid evolution of Internet technology has increased both the dissemination of and access to health care research.

Related issues have stimulated the drive for evidence-based physical therapist practice, the most important of which is the use of evidence by commercial and government payers as a basis for their coverage decisions. For example, the American Physical Therapy Association was able to convince the Centers for Medicare and Medicaid Services to approve Medicare benefit coverage for electrical stimulation to treat chronic wounds based on the evidence submitted demonstrating the effectiveness of this technique. In light of these important developments, physical therapists should have an understanding of what evidence-based practice is, how it works, and how it may improve their clinical practice.
Evidence-Based What?

The use of evidence in health care is referred to by a variety of labels with essentially similar meanings. Evidence-based medicine, a term relevant to physicians, is defined as “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available clinical evidence from systematic research.”  

“Evidence-based practice” and “evidence-based health care” are labels that have been created to link the behavior described by evidence-based medicine to other health care professionals. Hicks provides this expanded definition: “care that ‘takes place when decisions that affect the care of patients are taken with due weight accorded to all valid, relevant information.’” In both definitions, evidence does not replace clinical expertise; rather, evidence is used to inform more fully a decision-making process in which expertise provides one perspective to the clinical problem.

Regardless of the label, the implicit message in all cases is that the use of evidence in clinical decision making is a movement away from unquestioning reliance on knowledge gained from authority or tradition. Authority may be attributed to established experts in the field, as well as to revered teachers in professional training programs. Tradition may be thought of as practice habits expressed by the phrase “this is what I have always done.” Habits may be instilled by eminent authority figures, but they also may be based on local or regional practice norms that are reinforced by their use in payment formulas (“usual and customary”) and in legal proceedings (“local standard of care”). Knowledge derived from these sources often reflects an initial understanding of clinical phenomena from which diagnostic and treatment approaches are developed based on biologic plausibility and anecdotal experience. As such, this form of knowledge will continue to have a role as new clinical problems are encountered that require new solutions. The fundamental weakness in a clinician’s dependence on this type of knowledge, however, is the potential for selection of ineffective, or even harmful, tests, measures, or interventions as a result of the lack of inquiry into their “true” effects.

Straus et al. offer as an example the use of hormone replacement therapy in women without a uterus or those who are postmenopausal. Women in these situations were observed to have an increased risk of heart disease that, from a biologic perspective, appeared connected to the loss of estrogen and progestin. Replacing the lost hormones in an effort to reduce the risk of heart disease in these women made sense. The success of this treatment was confirmed further by observational studies and small randomized controlled trials. However, the early termination in 2002 of a large hormone replacement therapy trial sponsored by the National Institutes of Health challenged the concept of protective effects from this intervention. The study’s initial results indicated, among other things, that estrogen replacement did not protect postmenopausal women against cardiovascular disease as had been hypothesized. Moreover, long-term estrogen plus progestin therapy increased a woman’s risk for the development of heart attacks, strokes, blood clots, and breast cancer. In effect, years of clinical behavior based on a biologically
Evidence-Based Physical Therapist Practice

With that background in mind, this text has adopted the term evidence-based physical therapist practice (EBPT) to narrow the professional and clinical frame of reference. The definition of EBPT should be consistent with previously established concepts regarding the use of evidence, but it also should reflect the specific nature of physical therapist practice.

The Guide to Physical Therapist Practice, Second Edition, establishes physical therapy as a profession that is grounded in an expanded disablement model originally articulated by Nagi. The framework illustrated in Figure 1-1 is largely consistent with the more contemporary view of disability reflected by the World Health Organization's International Classification of Functioning, Disability and Health (ICF). The model depicts the clinical aspects of a patient/client’s situation, as well as the social context that shapes perceptions

The expanded disablement model:

- Biologic Factors
  - Congenital Conditions
  - Genetic Predispositions
- Demographic Factors
  - Age, Sex, Education, Income
- Pathology/Pathophysiology
- Impairment
- Functional Limitations
- Disability
- Comorbidity
  - Health Habits
  - Personal Behaviors
  - Lifestyles
- Psychological Attributes
  - (motivation, coping)
  - Social Support
- Physical and Social Environment
- Medical Care
- Medications/Therapies
- Rehabilitation
- Mode of Onset and Duration

Figure 1-1  Expanded disablement model.

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of health, wellness, illness, and disability for each individual. Within this framework physical therapists examine, evaluate, diagnose, prognosticate, and intervene with individuals with identified pathology, impairments (ICF = impairments in body functions and structure), functional limitations (ICF = activity limitations), and disabilities (ICF = participation restrictions), as well as with persons with health, prevention, and wellness needs. These professional behaviors are summarized in the term patient/client management. Finally, the management process incorporates the individual patient or client as a participant whose knowledge, understanding, goals, preferences, and appraisal of his or her situation are integral to the development and implementation of a physical therapy plan of care.

A definition of EBPT that reflects the intent of evidence-based medicine as well as the nature of physical therapist practice is offered here:

Evidence-based physical therapist practice is “open and thoughtful clinical decision making” about the physical therapy management of a patient/client that integrates the “best available evidence with clinical judgment” and the patient/client’s preferences and values, and that further considers the larger social context in which physical therapy services are provided, to optimize patient/client outcomes and quality of life.

The term “open” implies a process in which the physical therapist is able to articulate in understandable terms the details of his or her recommendations including (1) the steps taken to arrive at this conclusion, (2) the underlying rationale, and (3) the potential impact of taking and of refusing action. “Thoughtful clinical decision making” refers to the physical therapist’s appraisal of the risks and benefits of various options within a professional context that includes ethics, standards of care, and legal or regulatory considerations. “Best available evidence” is operationally defined in Chapter 2. “Preferences and values” are the patient/client’s “unique preferences, concerns, and expectations” against which each option should be weighed and that ultimately must be reflected in a collaborative decision-making process between the therapist and the patient/client. This point is consistent with the emphasis on patient-centered care as articulated by the Institute of Medicine. Finally, “larger social context” refers to the social, cultural, economic, and political influences that shape health policy including rules governing the delivery of and payment for health care services. Figure 1-2 provides an illustration of EBPT.

Evidence-Based Physical Therapist Practice Focus Areas

A clinician interested in evidence-based physical therapist practice rightly might ask, “Evidence for what?” The patient/client management model provides the answer to this question when one considers its individual elements. To conduct an examination and evaluation, physical therapists must choose, apply, and interpret findings from a wide variety of tests and measures, such as ligament stress techniques and quantifications of strength and range of motion. Similarly, accurate diagnosis of conditions resulting in pain depends on a properly constructed and tested classification scheme. Evidence may assist
the physical therapist in selecting the best techniques to correctly identify, quantify, and classify the patient/client’s problem, a result that will enhance the efficiency and effectiveness of service delivery.

*Prognosis* refers to a prediction of the future status of the patient/client that may reflect the natural course of a condition or result following physical therapy treatments or prevention activities. Predictive ability depends on the physical therapist’s understanding of the phenomenon in question (i.e., accurate diagnosis), as well as the identification of indicators or risk factors that signal a particular direction. In all cases the therapist must determine which of the numerous characteristics about the patient/client’s physical, psychological, behavioral, and environmental situation will be most predictive of the outcome of interest. Evidence may identify the most salient factors that will produce the most accurate prediction.

The choice of *interventions* is the step in the patient care process that carries particular weight because of the dual responsibilities of the provider to “do good” (beneficence) and to “do no harm” (nonmaleficence). The stakes in this balancing act increase when the intervention in...
The Process of Evidence-Based Physical Therapist Practice

Evidence-based physical therapist practice as a process starts with a question in response to a patient/client’s problem or concern. A search for relevant evidence to answer the question is then followed by a critical appraisal of its merits and conclusions, as well as a determination of its applicability to the patient/client. At the conclusion of the appraisal, the therapist will consider the evidence in the context of his or her clinical expertise and the patient/client’s values and preferences during an explicit discussion with that patient/client.5 Finally, the therapist and the patient/client will collaborate to identify and implement the next steps in the management process.

The process of EBPT depends on a variety of factors. First, physical therapists require sufficient knowledge about their patient/client’s condition to recognize what is unknown. In other words, physical therapists must be willing to suspend the assumption that they have complete information about a patient/client’s situation. In addition, physical therapists must have, or have access to, knowledge of the evidence appraisal process—that is, which features characterize stronger versus weaker evidence. Second, therapists need access to the evidence, a situation that has improved considerably with the advent of online databases and electronic publication of journals. Availability of these resources,
however, does not ensure their efficient use, particularly when it comes to developing effective search strategies. Third, physical therapists need the time to search for, appraise, and integrate the evidence into their practice. In busy clinical settings, time is a limited commodity that usually is dedicated to administrative tasks, such as documentation of services and discussions with referral sources and payers. Unless the entire clinic or department adopts the EBPT philosophy, it may be difficult for a single physical therapist to incorporate the behavior into his or her patient/client management routine.

Results from a survey conducted by Jette et al. suggest that some of the requirements of EBPT are obstacles to its implementation.17 Although most respondents (n = 488) believed evidence was necessary for practice and improved quality of care, 67% of the subjects listed lack of time as one of the top three barriers to implementation of EBPT. Nearly all respondents (96%) indicated they had access to evidence; however, 65% reported performing searches for evidence less than twice in a typical month. In addition, notable proportions of the sample indicated lower confidence levels in their abilities to execute effective search strategies (34%), appraise the evidence (44%), and interpret results using terms such as “odds ratio” (47%) and “confidence interval” (37%). Finally, older therapists with more years since licensure were less likely to have the necessary training, familiarity with, and confidence in the skills necessary for effective EBPT.

So, what can be done to reduce the barriers to effective EBPT? Clearly a philosophical shift is required to develop consistent behavior during a busy day of patient/client care. Management support in terms of the technology (e.g., Internet access), as well as time allotted in a therapist’s schedule, would reflect the type of commitment needed. The time issue also may be helped by the use of services that locate, summarize, and appraise the evidence for easy review by practitioners. Some of these services are discussed at the end of Chapter 3; however, it should be noted that physical therapists must determine whether or not the methodology used by these services is sufficiently stringent to provide an appropriate assessment of evidence quality. Databases dedicated to physical therapy evidence also may enhance the efficiency of the search process.

Ultimately, the ability to engage in EBPT consistently requires practice just like any other skill. The process starts with the individual patient/client and the questions generated from the initial encounter, such as:

- Which tests will provide accurate classification of this person’s problem?
- What activity limitations can I anticipate if this problem is not addressed?
- What is the most effective intervention I can offer for documented impairments in body functions and structure?
- How will we know if we have been successful?
- How can I capture changes in this person’s quality of life that result from this episode of care?

A physical therapist’s willingness to consider these questions consciously is the first step of EBPT. The word “consciously” is emphasized because it takes practice to develop the
habit of openly challenging one's assumptions and current state of knowledge. Until this behavior becomes a routine part of one’s practice, EBPT will be difficult to implement in a consistent and time-efficient manner.

Summary

The use of evidence in clinical decision making is promoted among many health professions in response to documented practice variation and increasing health care costs, as well as in response to a desire for improved quality of care. Evidence-based practice in any profession promotes less dependence on knowledge derived from authority or tradition through the use of evidence to evaluate previously unquestioned information. Evidence-based physical therapist practice is open, thoughtful decision making about the physical therapy management of a patient/client that integrates the best available evidence, clinical expertise, and the patient/client’s preferences and values, within the larger social context of the patient/client and the therapist. Evidence may be used to assist decision making regarding measurement, diagnosis, prognosis, interventions, and outcomes. Requirements for EBPT include a willingness to challenge one's assumptions, the ability to develop relevant clinical questions about a patient/client, access to evidence, knowledge regarding evidence appraisal, the time to make it all happen, as well as a willingness to acquire and practice the necessary skills described in this book.

Exercises

1. Describe two factors that have prompted the emphasis on evidence-based practice in health care. How might evidence address these issues or concerns?
2. Discuss the strengths and weaknesses of clinical knowledge derived from:
   a. Authority
   b. Evidence
   c. Tradition
   Describe a specific example of each type of knowledge in current physical therapist practice.
3. Discuss the potential contribution of evidence to each step of the patient/client management process. Provide clinical examples relevant to physical therapy to support your points.
4. Discuss the role of the patient/client in EBPT.
5. Complete the survey in Figure 1-3 modified from Jette et al. What do your answers tell you about your willingness and readiness to participate in EBPT?
6. Based on your results from the previous question, identify two changes you would need to make to enhance your ability to participate in EBPT. For each change, identify one strategy you could implement to move you in the right direction.
### Appendix

#### Evidence-Based Practice (EBP) Questionnaire

This section of the questionnaire inquires about personal attitudes toward, use of, and perceived benefits and limitations of EBP.

For the following items, place a mark (✓) in the appropriate box that indicates your response.

1. Application of EBP is necessary in the practice of physical therapy.
   - [ ] Strongly disagree
   - [ ] Disagree
   - [ ] Neutral
   - [ ] Agree
   - [ ] Strongly Agree

2. Literature and research findings are useful in my day-to-day practice.
   - [ ] Strongly disagree
   - [ ] Disagree
   - [ ] Neutral
   - [ ] Agree
   - [ ] Strongly Agree

3. I need to increase the use of evidence in my daily practice.
   - [ ] Strongly disagree
   - [ ] Disagree
   - [ ] Neutral
   - [ ] Agree
   - [ ] Strongly Agree

4. The adoption of EBP places an unreasonable demand on physical therapists.
   - [ ] Strongly disagree
   - [ ] Disagree
   - [ ] Neutral
   - [ ] Agree
   - [ ] Strongly Agree

5. I am interested in learning or improving the skills necessary to incorporate EBP into my practice.
   - [ ] Strongly disagree
   - [ ] Disagree
   - [ ] Neutral
   - [ ] Agree
   - [ ] Strongly Agree

6. EBP improves the quality of patient care.
   - [ ] Strongly disagree
   - [ ] Disagree
   - [ ] Neutral
   - [ ] Agree
   - [ ] Strongly Agree

7. EBP does not take into account the limitations of my clinical practice setting.
   - [ ] Strongly disagree
   - [ ] Disagree
   - [ ] Neutral
   - [ ] Agree
   - [ ] Strongly Agree

8. My reimbursement rate will increase if I incorporate EBP into my practice.
   - [ ] Strongly disagree
   - [ ] Disagree
   - [ ] Neutral
   - [ ] Agree
   - [ ] Strongly Agree

9. Strong evidence is lacking to support most of the interventions I use with my patients.
   - [ ] Strongly disagree
   - [ ] Disagree
   - [ ] Neutral
   - [ ] Agree
   - [ ] Strongly Agree

10. EBP helps me make decisions about patient care.
    - [ ] Strongly disagree
    - [ ] Disagree
    - [ ] Neutral
    - [ ] Agree
    - [ ] Strongly Agree

11. EBP does not take into account patient preferences.
    - [ ] Strongly disagree
    - [ ] Disagree
    - [ ] Neutral
    - [ ] Agree
    - [ ] Strongly Agree

For the following items, place a mark (✓) in the appropriate box that indicates your response for a typical month.

12. Read/review research literature related to my clinical practice.
    - [ ] ≤ 1 article
    - [ ] 2–5 articles
    - [ ] 6–10 articles
    - [ ] 11–15 articles
    - [ ] 16+ articles

13. Use professional literature and research findings in the process of clinical decision making.
    - [ ] ≤ 1 time
    - [ ] 2–5 times
    - [ ] 6–10 times
    - [ ] 11–15 times
    - [ ] 16+ times

14. Use MEDLINE or other databases to search for practice-relevant literature/research.
    - [ ] ≤ 1 time
    - [ ] 2–5 times
    - [ ] 6–10 times
    - [ ] 11–15 times
    - [ ] 16+ times

The following section inquires about personal use and understanding of clinical practice guidelines. Practice guidelines provide a description of standard specifications for care of patients with specific diseases or conditions and are developed through a formal, consensus-building process that incorporates the best scientific evidence of effectiveness and expert opinion available.

For the following items, place a mark (✓) in the appropriate box that indicates your response.

15. Practice guidelines are available for topics related to my practice.
    - [ ] Yes
    - [ ] No
    - [ ] Do Not Know

16. I actively seek practice guidelines pertaining to areas of my practice.
    - [ ] Strongly disagree
    - [ ] Disagree
    - [ ] Neutral
    - [ ] Agree
    - [ ] Strongly Agree

17. I use practice guidelines in my practice.
    - [ ] Strongly disagree
    - [ ] Disagree
    - [ ] Neutral
    - [ ] Agree
    - [ ] Strongly Agree

18. I am aware that practice guidelines are available online.
    - [ ] Yes
    - [ ] No

19. I am able to access practice guidelines online.
    - [ ] Yes

20. I am able to incorporate patient preferences with practice guidelines.
    - [ ] Strongly disagree
    - [ ] Disagree
    - [ ] Neutral
    - [ ] Agree
    - [ ] Strongly Agree

21. I have access to current research through professional journals in their paper form.
    - [ ] Yes

22. I have the ability to access relevant databases and the Internet at my facility.
    - [ ] Yes
    - [ ] No
    - [ ] Do Not Know

(continues)

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**Figure 1-3** Survey of beliefs and attitudes regarding evidence-based physical therapy practice.

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23. I have the ability to access relevant databases and the Internet at home or locations other than my facility. [ ] Yes/No/Do Not Know

24. My facility supports the use of current research in practice. [ ] Strongly Disagree [ ] Disagree [ ] Neutral [ ] Agree [ ] Strongly Agree

25. I learned the foundations for EBP as part of my academic preparation. [ ] Strongly Disagree [ ] Disagree [ ] Neutral [ ] Agree [ ] Strongly Agree

26. I have received formal training in search strategies for finding research relevant to my practice. [ ] Strongly Disagree [ ] Disagree [ ] Neutral [ ] Agree [ ] Strongly Agree

27. I am familiar with the medical search engines (e.g., MEDLINE, CINAHL). [ ] Strongly Disagree [ ] Disagree [ ] Neutral [ ] Agree [ ] Strongly Agree

28. I received formal training in critical appraisal of research literature as part of my academic preparation. [ ] Strongly Disagree [ ] Disagree [ ] Neutral [ ] Agree [ ] Strongly Agree

29. I am confident in my ability to critically review professional literature. [ ] Strongly Disagree [ ] Disagree [ ] Neutral [ ] Agree [ ] Strongly Agree

30. I am confident in my ability to find relevant research to answer my clinical questions. [ ] Strongly Disagree [ ] Disagree [ ] Neutral [ ] Agree [ ] Strongly Agree

For the following item, place a mark [ ] in one box in the row for each term.

31. My understanding of all the following terms is:

<table>
<thead>
<tr>
<th>Term</th>
<th>Understand Completely</th>
<th>Understand Somewhat</th>
<th>Do Not Understand</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Relative risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Absolute risk</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>c) Systematic review</td>
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<td></td>
<td></td>
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<tr>
<td>d) Odds ratio</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>e) Meta-analysis</td>
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<td></td>
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<tr>
<td>f) Confidence interval</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>g) Heterogeneity</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>h) Publication bias</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the following items, rank your top 3 choices by placing numbers in the appropriate boxes (1=most important).

32. Rank your 3 greatest barriers to the use of EBP in your clinical practice.

<table>
<thead>
<tr>
<th>Barriers to EBP</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient time</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Lack of information resources</td>
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<td></td>
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<tr>
<td>Lack of research skills</td>
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<tr>
<td>Poor ability to critically appraise the literature</td>
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<tr>
<td>Lack of generalizability of the literature findings to my patient population</td>
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<td></td>
<td></td>
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<tr>
<td>Inability to apply research findings to individual patients with unique characteristics</td>
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<td></td>
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<tr>
<td>Lack of understanding of statistical analysis</td>
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<tr>
<td>Lack of collective support among my colleagues in my facility</td>
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<td></td>
<td></td>
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<tr>
<td>Lack of interest</td>
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</tr>
</tbody>
</table>

Figure 1-3 Survey of beliefs and attitudes regarding evidence-based physical therapy practice. (continued)

References


References
