

Evidence Based Practice

– an overview

We all want to do the best we can for our patients, carers and community. But how do we know that physical therapy is really making a difference? Tracy Bury provides an overview of evidence-based practice.

What is evidence based practice?

Introduction

Evidence based practice (EBP) is not a new concept, but it has become more explicit in many countries over recent years. At the heart of it are a number of good intentions. EBP aims to:

- improve the care of patients, carers and communities
- reduce variations in practice
- use evidence from high quality research to inform practice, balancing known benefits and risks
- challenge views based on beliefs rather than evidence
- make decision-making more transparent
- integrate patient preferences into decision-making
- ensure that knowledge continues to inform practice through life-long learning activities.

There are some misconceptions that exist about EBP. For example:

- it is a disguise for healthcare rationing
- it does not value clinical experience
- it only admits randomised controlled trials as sources of evidence
- it provides a formulaic approach to practice
- it encourages interventions which have not been well-researched to be seen as ineffective.

Definitions

So what is EBP? It is the integration of:

- the best available research evidence
- clinical experience
- patients' beliefs and values ...to guide patient care.

It should facilitate shared decision-making between the physical therapist, the patient, their carers and the community.

What constitutes evidence?

The evidence used in decision-making comes from a variety of sources. Textbooks and continuing professional development (CPD) courses have been a traditional way of keeping up to date, however, they are often a poor way to find out about what the best evidence has to say.

For research evidence, there are hierarchies which provide an indication of how well research techniques address certain clinical questions. Box 1 shows a hierarchy for methods designed to answer questions of treatment effectiveness. Other hierarchies can be constructed for other sorts of clinical questions.

Box 1

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| I | Strong evidence from at least one systematic review based on multiple high quality randomised controlled trials |
| II | Strong evidence from at least one high quality randomised controlled trial of appropriate size and in an appropriate clinical setting |
| III | Evidence from well designed non-randomised studies, single group pre-post, cohort, time series or matched case controlled studies |
| IV | Evidence from well designed non-experimental studies from more than one research group or centre |
| V | Opinions of respected authorities, based on clinical evidence, descriptive studies or reports of expert consensus committees |

Source: Bandolier (1995) 1(12),1

Unfortunately, not all research is to a high standard, even when the best research methods are used. So it is important to consider the scientific merit and clinical relevance of any research.

Another source of evidence is clinical experience, gained over time and incorporating knowledge learned from experts in the field as well as individual clinical practice. Since research of sufficient quality has not been conducted in many areas of physical therapy – as for many areas of medicine – this may be the best evidence available in some circumstances.

The physical therapist gathers information to inform decisions in every interaction with a patient – this is another form of evidence. It includes the findings of examinations, as well as knowledge of the patient's preferences and beliefs.

Why do we need EBP?

EBP helps us do the best we can for our patients. It also furthers the development of physical therapy.

It is not just physical therapists who want practice to be based on evidence. Patients themselves want to know more and more about their treatment and the choices available. Other health care professionals are challenging us to justify what we do. Health care purchasers and third party payers are asking health care professions to account for what they do and are assessing the evidence themselves so they can decide what they are prepared to pay for. It is important that physical therapist themselves are actively involved in such work to ensure the right

evidence is used and interpreted correctly.

EBP should be seen as an opportunity for physical therapy, not a threat. Where we have high quality evidence we can clearly demonstrate the valuable contribution of physical therapy. This provides increased leverage when lobbying for service improvements and can lead to enhanced roles for physical therapists. It may also assist those countries still striving to gain clinical autonomy.

EBP gives us a legitimate way of discarding treatments which have been shown to be ineffective. It means we can deploy our resources in areas where we can make most difference.

How do we make EBP happen?

Getting the right environment

Physical therapists' personal commitment is vital, but so is a working environment that embraces and promotes EBP. There need to be appropriate support structures, resources, facilities and CPD opportunities. So managers and organisations have to be committed to delivering on their responsibilities for high quality patient care.

Taking it in steps

EBP can be seen as a step-by-step approach. The first step is to raise a question. For example:

"What is the most effective treatment for arm pain in stroke patients?"

"How should we organise our services for children with developmental co-ordination problems?"

Next begins the search for evidence. Accessing the best evidence often involves seeking out clinical guidelines or high quality summaries of research, such as those published in *Clinical Evidence*¹ and the *Cochrane Library*² and *PEDro*³ databases, before looking for original research.

Once you have identified the most

relevant research, critically appraise it for its quality and relevance. This applies to evidence summaries as well as original research.

Then it is for the individual physical therapist, based on their experience and knowledge, to decide what to implement for whom and when. This should be guided by discussions with patients, carers and the community, as appropriate. It is then important to evaluate the impact of what has been done and to re-evaluate and search again as necessary.

Skills for EBP

There are specific skills you need in order to make EBP happen. If these skills – some of which are not limited to EBP – have not been obtained during pre-qualifying education, they can be acquired through life long-learning activities. For instance, we all have to live with change of one kind or another, and learning how to manage change is part of EBP.

Searching for evidence requires specific skills. Evidence can be at our fingertips thanks to information technology (IT) and the Internet. But not everyone has access to IT or the confidence to use it. So training may be important. Library and information specialists can also help support our search for evidence, as can a good healthcare library.

Being able to critically appraise research papers is an additional skill many physical therapists need to acquire. Just because something has been published does not mean it is of a high quality or relevant. Understanding the methods used in research papers and how research summaries are produced is part of becoming a critical consumer of research.

You may also have to learn more about how to evaluate your practice, possibly through clinical audit.

Key messages

- EBP provides opportunities for physical therapy and improvements in patient care.
- It should be part of life-long

learning activities, beginning at the pre-qualifying level.

- EBP requires a combination of art and science.
- Managers need to provide an environment that embraces and enables EBP.

Reading List

Bury T, Mead J (Eds) (1998) *Evidence Based Healthcare: A practical guide for therapists*. Butterworth Heinemann: Oxford, UK.
Greenhalgh T (2000) *How to Read a Paper: The Basics of Evidence Based Medicine* (2nd Edition). BMJ Publishing: London, UK
Physiotherapy Theory and Practice special EBP issue (2001) Volume 17, Number 3
Sackett D, Richardson WS, Rosenberg W, Haynes B, Straus S. (2000) *Evidence Based Medicine: How to practice and teach EBM* (2nd Edition). Churchill Livingstone: Oxford, UK
Sim J, Wright C (1999) *Research for health professionals: Designs and methods*. Stanley Thornes: Cheltenham, UK.

Resources

There will be further **Keynotes** covering issues in EBP. WCPT's website (www.wcpt.org) includes information on its work on EBP, and further resources are planned. Other **Keynotes** provide information on the related subject of reading research critically and assessing its relevance (see *Reading Tips for Clinicians series*) for example.

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¹Clinical Evidence <http://www.clinicalevidence.com/>

²Cochrane Library <http://www.update-software.com/cochrane/>

³PEDro <http://ptwww.cchs.usyd.edu.au/pedro/>