Evidence-based practice: lost in translation?

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How certain am I about my patient’s diagnosis? What can I tell this patient about the likely prognosis? Will the treatment I have selected do more good than harm? These questions are the foundation of routine clinical practice. As primary care clinicians, physiotherapists have ethical and professional responsibilities to provide the best possible care for every patient. To do this, we need to be able to make an accurate diagnosis, know about the prognosis of conditions we commonly see, and select an effective and safe therapy that addresses the patient’s goals of treatment. In an earlier era of physiotherapy, these processes were based predominantly on knowledge from clinical practice and experience. Then the evidence-based health care paradigm emerged in the 1990s. This, together with a rapid escalation of clinical research in physiotherapy, has resulted in the imperative for clinical decision-making to be underpinned by evidence. Without doubt there are limitations to evidence-based practice. Although imperfect, the evidence-based approach is considered the best available model for clinical practice, primarily because it is founded on the least-biased evidence from clinical research (Herbert et al 2001). Indeed, physiotherapists consider that the quality of patient care is better when evidence is used (Iles and Davidson 2006, Jette et al 2003, Heiwe et al 2011).

But integration of this model into daily clinical practice is not easy. Practical barriers that physiotherapists have identified include lack of time, poor access to databases or summaries of evidence, and inadequate skills to search and appraise research evidence (Iles and Davidson 2006, Jette et al 2006, Heiwe et al 2011). Numerous practical resources have been developed to address these barriers and to help busy clinicians translate clinical evidence into patient management. These include pre-appraised resources such as clinical practice guidelines, critically appraised papers, and clinical commentaries on research papers. Various types of software have also been developed to assist in summarising answers to research questions. For example, EBM Reports 3 helps organise, store, study and print health-related research reports obtained through internet searches, and EBM Calculator is free software that is designed to calculate statistics such as odds ratios and numbers needed to treat. Also, the Physiotherapy Evidence Database (PEDro) website provides a free index of high quality research relevant to physiotherapists with ratings of the quality of the listed trials. Practical strategies to apply these resources in physiotherapy practice to improve patient care have been outlined elsewhere (Herbert et al 2001, Herbert et al 2005).

This editorial is not concerned with practical barriers to evidence-based practice, but with conceptual barriers. We suggest that the original formulation of evidence-based practice has been lost in translation, resulting in misconceptions about what this model of care is really about. These misconceptions may explain the reluctance of some physiotherapists to embrace the paradigm of evidence-based practice in clinical care.

Let’s examine some common beliefs about evidence-based practice. They include: (i) that it is a ‘cookbook’ approach to clinical practice, (ii) that it devalues clinicians’ knowledge and expertise, and (iii) that it ignores patients’ values and preferences (Straus and McAlister 2000). According to the cookbook characterisation of evidence-based practice, treatment selection is dictated solely by evidence from randomised controlled trials. In a classic parody of this view, a 2003 British Medical Journal article reviewed what is known about the effectiveness of parachutes in preventing major trauma when jumping out of an aeroplane, concluding that, because there is no evidence from a randomised controlled trial, parachutes should not be used (Smith and Pell 2003). While clearly a mischievous piece of writing, it exposed a common misconception about evidence-based practice: that the double-blind randomised controlled trial is considered the holy grail, providing scientific evidence for clinical decision-making to the exclusion of clinicians’ professional expertise (and common sense) or an individual patient’s values. But is this really how evidence-based practice was formulated? In his 1996 article, evidence-based medicine pioneer David Sackett clearly outlined a very different model of care. He explained that evidence-based practice is the integration of research evidence together with clinical expertise and patients’ values to inform decisions about clinical practice and optimise patient care (Figure 1) (Sackett et al 1996). Somehow, two-thirds of this model – the therapist’s clinical expertise and the patient’s values – seem to have been lost in translation to the current understanding of evidence-based practice.

As would be universally recognised by physiotherapists, clinical expertise – the proficiency clinicians develop from clinical practice – has been and always will be an essential cornerstone of clinical practice. Perhaps what is less well recognised is that it is also a central tenet of the paradigm of evidence-based practice, where clinical expertise is considered pivotal in the judicious application of research.
evidence to decision-making and patient care. Sackett and colleagues (1996) state: research evidence can inform, but can never replace, clinical expertise; without clinical expertise, practice risks becoming tyrannised by evidence, because even excellent evidence may be inapplicable to or inappropriate for an individual patient, as every good clinician would be well aware.

Similarly lost in translation is the explicit consideration of patients’ values in the evidence-based practice model. In Sackett’s words, the best evidence needs to be considered together with the more thoughtful identification and compassionate use of individual patients’ predicaments, rights and preferences in making clinical decisions about their care. This is summed up well in the following comment by Herbert and colleagues (2001): the best decisions are made with the patient, not found in journals and books. As physiotherapists we must, at the very least, fulfil the legal requirement to obtain valid informed consent for treatment, which requires the disclosure of possible benefits and risks. This requires physiotherapists to have up-to-date knowledge about treatment options, based on good clinical research, to discuss with patients in a co-operative decision-making model.

This can be illustrated by a simple clinical example. A young adult with Charcot-Marie-Tooth disease has restricted ankle dorsiflexion range of movement. A randomised controlled trial has shown that serial night casting improves ankle dorsiflexion range in this population (Rose et al 2010). Despite this, the physiotherapist might suggest an alternative intervention if the patient lives alone and would require assistance to apply the removable casts. In another example, a patient with chronic obstructive pulmonary disease has been referred for pulmonary rehabilitation. A randomised trial has shown that walk training and training on an exercise bike have similar effects on peak exercise capacity and quality of life, but that walk training provides greater benefit in walking endurance (Leung et al 2010). However, the patient expresses a dislike of walking due to pain from bilateral hallux valgus. The therapist explains the relative benefits of the two exercise modalities to the patient. In a shared decision-making process based on scientific evidence, practice-generated knowledge, and the patient’s preferences, the decision is made to undertake training on an exercise bike – which the patient finds enjoyable.

In 2011, physiotherapists are fortunate to have a large body of good quality research to guide clinical practice. At the time of writing, there were 15 510 randomised trials indexed on PEDro. As health care providers, we have a professional responsibility to use the evidence generated by these trials, as well as prognostic evidence from cohort studies, evidence about the accuracy and utility of diagnostic tests, and evidence about patients’ perceptions and priorities from qualitative research. Furthermore, this evidence should be used in conjunction with our clinical reasoning and with information we gather by communicating well with our patients, as described by the evidence-based practice model. It is time to dispel the common misconceptions about this model of care.

References


Website

www.pedro.org.au