



## Systematic review

## Evidence-Based Practice in physiotherapy: a systematic review of barriers, enablers and interventions

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## Abstract

**Background** Despite clear benefits of the Evidence-Based Practice (EBP) approach to ensuring quality and consistency of care, its uptake within physiotherapy has been inconsistent.

**Objectives** Synthesise the findings of research into EBP barriers, facilitators and interventions in physiotherapy and identify methods of enhancing adoption and implementation.

**Data sources** Literature concerning physiotherapists' practice between 2000 and 2012 was systematically searched using: Academic Search Complete, Cumulative Index of Nursing and Allied Health Literature Plus, American Psychological Association databases, Medline, Journal Storage, and Science Direct. Reference lists were searched to identify additional studies.

**Study selection** Thirty-two studies, focusing either on physiotherapists' EBP knowledge, attitudes or implementation, or EBP interventions in physiotherapy were included.

**Data extraction and synthesis** One author undertook all data extraction and a second author reviewed to ensure consistency and rigour. Synthesis was organised around the themes of EBP barriers/enablers, attitudes, knowledge/skills, use and interventions.

**Results** Many physiotherapists hold positive attitudes towards EBP. However, this does not necessarily translate into consistent, high-quality EBP. Many barriers to EBP implementation are apparent, including: lack of time and skills, and misperceptions of EBP.

**Limitations** Only studies published in the English language, in peer-reviewed journals were included, thereby introducing possible publication bias. Furthermore, narrative synthesis may be subject to greater confirmation bias.

**Conclusion and implications** There is no "one-size fits all" approach to enhancing EBP implementation; assessing organisational culture prior to designing interventions is crucial. Although some interventions appear promising, further research is required to explore the most effective methods of supporting physiotherapists' adoption of EBP.

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**Keywords:** Evidence-Based Practice; Physiotherapists; Best Practices; Review; Decision Making; Practice-Research Gap

## Background

Evidence-Based Practice (EBP) is a 5 step process whereby clinicians integrate best research evidence with clinical expertise and client preferences, producing the most appropriate and effective service [1,2]. As a result there has been growing pressure on physiotherapy to embrace EBP [3]. Engaging with both research and clinical findings can enhance the proficiency of physiotherapists' clinical practice

[2] and help prevent the misuse, overuse and underuse of healthcare services [4]. In an era of growing accountability of healthcare practitioners, this may provide a useful framework within which to work. Indeed, this has led some to argue that there is a *moral obligation* to base decision-making on research findings [3].

Despite the clear benefits of EBP, its uptake within physiotherapy (and other healthcare domains) has been patchy and inconsistent in quality [5]. Concerns over the compatibility of aspects of EBP and lack of clinically relevant research [3,6], have been raised by researchers and clinicians alike.

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## Objectives

Research has identified a number of challenges physiotherapists face when implementing EBP [6], which are sometimes inconsistent. This review aimed to synthesise research findings regarding barriers and enablers of EBP, and the effectiveness of current EBP interventions in physiotherapy, to help identify methods of increasing the consistency and quality of EBP implementation.

## Method

The review followed the PRISMA guidelines [7] for reporting systematic reviews. A narrative analysis approach was adopted, whereby text is used to summarise and explain review synthesis findings, as it is suitably flexible to allow for the inclusion of diverse methodologies.

## Data sources

Literature concerning physiotherapists' practice between 2000 and 2012 was systematically searched using free-text keywords and MeSH or equivalent terms in combination (see Table S1). Reference lists were searched to identify additional studies.

## Study selection

Articles were initially reviewed according to the following inclusion criteria;

- Published in a peer-reviewed journal in English;
- Published between 2002 and 2012;
- Primary research conducted with qualified physiotherapists;
- Focused on at least one of the following;
  - Physiotherapists' knowledge/understanding of EBP
  - Physiotherapists' attitudes towards EBP
  - Physiotherapists' practice/implementation of EBP.
  - EBP interventions in Physiotherapy.

To enhance comparability of researching findings, only studies from the following Western cultures/regions were included: UK, Ireland, Europe, USA, Canada, Australia and New Zealand.

In total, 32 articles were retrieved that met the criteria; 27 used a quantitative method, 3 used a qualitative method and 2 used mixed-methods designs. A flow chart of study retrieval and selection is presented in Fig. S1.

## Data extraction and synthesis

One author undertook all data extraction using a pre-defined template, and a second reviewed to ensure

consistency and rigour. Synthesis was organised around the themes of EBP barriers/enablers, attitudes, knowledge/skills, use and interventions.

## Quality appraisal

Quantitative articles were assessed using the Effective Public Health Practice Project (EPHPP; [8]) tool: each study was rated as strong, moderate or weak (see Table 1). Qualitative articles were appraised using the consolidated criteria for reporting qualitative research (COREQ; [9]), modified to rate articles as strong, moderate or weak. Mixed-methods research was evaluated using both tools.

## Results

Despite known variations between countries' healthcare provision a number of key themes were evident, suggesting they represent factors common to the practice of physiotherapy across contexts; as there were no obvious systematic differences in the characteristics of the research across regions or publication date, the results were structured around these themes. However, to aid with interpretation Table 1 presents studies' characteristics and findings by region and date.

## Practice of EBP

Some studies compared physiotherapists' practice of EBP with professionals' from other healthcare domains. Palfreyman *et al.* [10] found that although both nurses and physiotherapists had access to a broad range of EBP knowledge sources, physiotherapists used such sources and implemented EBP more frequently. However, both professions relied significantly on patients and colleagues as knowledge sources.

In a study comparing Swedish physiotherapists, dieticians and occupational therapists, physiotherapists read and reviewed research more often and were more likely to say EBP helped them with decision-making [11]. Complex differences between physiotherapists' and other allied health professionals' (AHPs) were identified in a UK sample [12]; physiotherapists outperformed on some aspects, such as identifying relevant research, but performed less well on others, such as identifying knowledge-gaps. However, other research with UK-based AHPs (physiotherapists, speech and language therapists, occupational therapists, dieticians, radiographers and podiatrists) found no statistically significant differences in EBP implementation, attitudes, or knowledge and skills [13]. These discrepancies may be explained by differences in level of academic preparation and access to educational initiatives (e.g. all professionals in [13]'s study had access to a professional development programme, potentially increasing consistency in EBP), and changes to EBP teaching.

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