



## Systematic review

# What do physical therapists think about evidence-based practice? A systematic review



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## ABSTRACT

Evidence-Based Practice (EBP) has been widely implemented in different health-related areas. Several studies investigated important characteristics in EBP by physiotherapists and systematic review is needed. Therefore the aim of this study is to describe the current evidence on EBP knowledge, skills, behaviour, opinions and barriers by physiotherapists. Searches were conducted on MEDLINE, EMBASE, CINAHL, PSYCINFO, LILACS, and SciELO in September 2014. We retrieved quantitative cross-sectional studies that investigated EBP knowledge, skills, behaviour, opinions, and barriers in physiotherapy. Risk of bias was assessed using a scale to evaluate representativeness of the sample, response rate, the accuracy of the data, evidence of power calculation and the instrument used. The search yielded 12,392 potentially eligible studies. Of these, 12 studies were included in the review (pooled sample = 6411 participants). In 3 studies that analysed knowledge, approximately 21–82% of respondents claimed to have received prior information on EBP. In 2 studies that reported skills and behaviour, nearly half of the sample had used databases to support clinical decision-making. In 6 studies that investigated opinions, the majority of the samples considered EBP necessary or important. The barriers most frequently reported were: lack of time, inability to understand statistics, lack of support from employer, lack of resources, lack of interest and lack of generalisation of results. Although the majority of physiotherapists have a positive opinion about EBP, they consider that they need to improve their knowledge, skills and behaviour towards EBP. They also faced barriers that might hinder the implementation of EBP.

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## 1. Introduction

Evidence-Based Practice (EBP) has been increasingly recognised and used by physiotherapists as a result of the growing volume and accessibility of high-quality research (Maher et al., 2004). Currently, the term Evidence-Based Physiotherapy can be applied to physiotherapy based on high-quality clinical research (Herbert et al., 2011). However decision-making must also take into account the wishes, expectations, and values of the patient as well as the therapist's experience and knowledge (Herbert et al., 2005).

Although the concepts of EBP are well-defined, EBP faces a variety of challenges with regards to its implementation (Haynes and

Haines, 1998). These challenges are closely related to current health policies, the complexity of physiotherapy practice, access to the studies and continued education programs (Haynes and Haines, 1998). Previous studies on different health professions have identified multiple barriers such as lack of time (McColl et al., 1998; Metcalfe et al., 2001; Jette et al., 2003; Majid et al., 2011), lack of access to full-text articles (Maher et al., 2004; Bennett et al., 2007) and/or lack of skills in finding and understanding the studies (Jette et al., 2003; Bennett et al., 2007; Caldwell et al., 2007; Ahmadi et al., 2012). The inability of health professionals to comprehend and select high-quality studies has been attributed to poor training in EBP due to great variability of teaching methods during university training (Ahmadi et al., 2012). Other barriers include the questionable quality of the studies (Petrisor and Bhandari, 2006; Caldwell et al., 2007; Spallek et al., 2010) and the conflicting results of different studies investigating the same topic (Metcalfe et al., 2001; Spallek et al., 2010). Some studies have different characteristics which do not represent the real clinical practice

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which can make the clinical application more difficult (Flores et al., 2000; Cranney et al., 2001; Jette et al., 2003). Another factor that can interfere in the application of EBP is the language of publication. Most studies are published in English (Shiwa et al., 2013), which can hinder their use by non-English proficient readers (Maher et al., 2004).

EBP has also been progressively used in different areas of health, such as medicine, nursing, physiotherapy, occupational therapy, nutrition, dentistry, and in the area of healthcare management and economics (Evidence-Based Medicine Working Group, 1992). There are several studies that investigated different aspects required in EBP in a specific population of physiotherapists (Jette et al., 2003; Iles and Davidson, 2006; Bauer et al., 2007; Grimmer-Somers et al., 2007; Salbach et al., 2007, 2009; Buchard, 2009; Nilsagård Ylva, 2010; Gorgon et al., 2013; Scholten-Peeters et al., 2013). Another review (Scurlock-Evans et al., 2014) has showed that physiotherapists tend to present favourable opinions toward EBP and the mainly barriers faced by them are usually related with lack of time and skills, and also misperceptions of EBP. Besides, this review identified some interventions that seem to be promising to a better implementation of EBP. Although this review has assessed some important characteristics about EBP in physiotherapy, the results were presented as a textual synthesis, without presenting the frequencies of the analysed characteristics, and included only studies published in English. Although there are studies about this topic, our systematic review can potentially contribute with more detailed information about this topic from retrieving all available evidence. Then, we considered important a new systematic review to better inform professionals about these characteristics and to identify the most important difficulties faced by physiotherapists with regards to EBP. Therefore we aimed to systematically review the evidence on EBP knowledge, skills, behaviour, opinions, and barriers faced by physiotherapists.

## 2. Methods

### 2.1. Search strategy

Systematic searches were conducted on the following electronic databases MEDLINE, EMBASE, CINAHL, PSYCINFO, LILACS, and SciELO including publications since the inception of these databases until 05th September 2014. These searches were adjusted to each of the databases used. Detailed search strategies used in each database are described in Appendix 1.

### 2.2. Inclusion and exclusion criteria

Studies were considered for inclusion if they met the following criteria: (1) quantitative cross-sectional studies, (2) studies that investigated EBP characteristics by physiotherapy graduates (regardless of degree) who are working in the field and (3) studies that investigated EBP knowledge, skills, behaviour, opinions, and barriers in physiotherapy.

### 2.3. Study selection

The study selection process included: (1) analysis and selection by screening the titles; (2) analysis and selection by reading the abstracts, and (3) analysis and selection by reading the full texts. Potentially eligible studies were also searched by reading the references lists of eligible article. If an eligible study was published in a language different than English, Portuguese and Spanish, all possible attempts were taken to translate it. The data were extracted by two independent reviewers and, in case of disagreement; consensus was reached by discussion between the reviewers or by arbitration by a third reviewer.

### 2.4. Data extraction

A data-extraction form based on similar studies (Dijk et al., 2010; Ubbink et al., 2013) was designed for recording information on: (1) year of publication, (2) country of origin, (3) source of sample, (4) number of participants, (5) the aspects of EBP that were analysed, including knowledge, skills, behaviour, opinions, and barriers. The data were extracted by two independent reviewers and, in case of disagreement; consensus was reached by discussion between the reviewers or by arbitration by a third reviewer. The authors were contacted by email in order to obtain any additional information that might not be reported in the original articles.

### 2.5. Risk of bias

Risk of bias was assessed using the criteria developed by Ferreira (Ferreira et al., 2010) and Leboeuf-Yde and Lauritsen (1995). These criteria described the representativeness of the sample (measured by 2 items), the response rate, the accuracy of the data, evidence of power calculation and the instrument used. Some of these criteria have been adapted for our study and are described in Appendix 2. Each study received a score as risk of their bias, expressing the number of criteria met on a 6-point scale, higher scores being representing low risk of bias (Leboeuf-Yde and Lauritsen, 1995; Ferreira et al., 2010). The risk of bias was rated by two independent reviewers and, in case of disagreement; consensus was reached by discussion or by arbitration by a third reviewer.

### 2.6. Data analysis

We considered as outcomes: EBP knowledge, skills, behaviour, opinions, and barriers in physiotherapy. We defined the outcomes of our review as follows:

*Knowledge*: “facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject”; (University, 2013)

*Skill*: “the ability to do something well; expertise, a particular ability”; (University, 2013)

*Behaviour*: “the way in which one acts or conducts oneself, especially towards others, behaviour patterns”; (University, 2013)

*Opinion*: “a view or judgement formed about something, not necessarily based on fact or knowledge, the beliefs or views of a group or majority of people”; (University, 2013)

*Barrier*: “a circumstance or obstacle that keeps people or things apart or prevents communication or progress” (University, 2013).

It was not possible to perform a meta-analysis of the studies included in the review due to the large heterogeneity among the studies. This heterogeneity is largely related to different data collection methods, different measurement instruments used, and different response options used on each instrument. Therefore, our results were reported descriptively. Although our data precluded the use of a meta-analysis approach, we aggregated the response options by presenting the range of responses (minimum and maximum) for each characteristic analysed.

## 3. Results

### 3.1. Study inclusion

The search yielded 12,392 potentially eligible studies, of which 12,313 were excluded after the titles and abstracts were read. Moreover, a total of 20 studies were excluded after we have read the full-text. One abstract was considered potentially eligible but

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