

# Knowledge, Attitudes, Beliefs and Behaviors of Physiotherapists to Evidence-Based Practice: A Cross-Sectional Survey

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## Abstract

**Introduction:** Physiotherapists work as autonomous professionals and in team with other healthcare professionals. The present-day healthcare literature consists of arguments about the importance of outcome research and evidence-based practice. Therefore, studying the currently used and new treatment procedures along with their supporting evidences is of prime importance particularly to the new graduates.

**Aim:** To determine physiotherapists' self-reported knowledge, attitudes, beliefs and behaviors to evidence-based practice within a university setting.

**Method:** A cross-sectional survey was conducted among postgraduate physiotherapy students (n=75) within the Gujarat University. Participants completed evidence-based practice questionnaire (EBP-Q) designed to determine knowledge, attitudes, beliefs and behaviors, as well as demographic information about themselves and practice settings. Most responses of questionnaire were rated on a 5-point Likert scale, between 'strongly agree' and 'strongly disagree'. Some items included yes/no/do not know responses, whereas others consisted of understand completely/understand somewhat/do not understand responses.

**Result:** Data was analyzed using SPSS version 20.0. Percentage of participants was calculated for responses of knowledge, attitudes, beliefs and behaviors domains in the questionnaire.

**Conclusion:** Physiotherapists have a positive attitude and beliefs about EBP; however, the knowledge and behaviors among them was relatively poor.

**Keywords:** Evidence-based practice questionnaire, Knowledge, Attitude and beliefs, Behaviors, Evidence-based physiotherapy

## Introduction

In 1978, Michels, a prominent figure in physical therapy, stated that opinion is not enough to justify what is done in physical therapy.<sup>1</sup> He further stated that standards for practice should be established and based on research evidence of the effectiveness of the methods used. Over

the years, other researchers in physical therapy have stated that research is important to: validate physical therapy services, provide information on the effectiveness of treatment, improve patient care by making intelligent clinical decisions based on research findings, and provide answers to therapists' questions.<sup>2</sup>

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Evidence-based practice (EBP), which originates from evidence-based medicine, which has been described 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 external clinical evidence from systematic research'.<sup>3</sup> One way to integrate evidence into practice is by using evidence-based clinical guidelines.<sup>4</sup>

Knowledge about EBP means that therapists possess the basic knowledge of EBP concepts, terminology related to quality or levels of evidence. It also includes the ability to do a thorough literature search and critically appraise evidence. Attitudes and beliefs toward EBP include the adaptability towards EBP given professional requirements to do so, openness to new practice guidelines, and behavior towards EBP implies the tendency of professionals to apply their EBP knowledge to the specific clinical conditions. Also, EBP behaviors refer to a professionals' employing activities associated with EBP such as searching and obtaining higher quality evidence in their own domain.<sup>5</sup>

Physiotherapy is a healthcare professional course comprising four and half years of under-graduation and two years of post-graduation in various areas of specialization such as orthopedic, neuromuscular, cardio-pulmonary, rehabilitation and sports. Current literature available in healthcare is mainly filled with arguments about the importance of outcomes research and evidence-based practice. Therefore, the examination of currently used and new treatment procedures should be of importance to new graduates, to the practicing clinician, to the educator, and to the full-time researcher. Hence, the purpose of the study was to determine the knowledge, attitudes, beliefs and behaviors of post-graduate physiotherapy students towards EBP within a University setting.

## Materials and Methods

A cross-sectional survey was conducted among postgraduate physiotherapy students within Gujarat University consisting of various areas of specialization. Demographic details including gender, age, area of specialization and years of experience, if any, were documented as a part of the

questionnaire. Data was collected using a EBP questionnaire used by Jette et al.<sup>6</sup> The questionnaire was originally created and designed to assess the attitudes, beliefs and knowledge of physicians [general practitioners (GPs)] relating to evidence-based practice.<sup>7</sup> The questionnaire has also been used to study attitudes, beliefs and knowledge towards evidence-based practice among various healthcare professionals such as nurses, occupational therapists, dieticians, physical therapists, physicians and mixed healthcare professionals across the world.<sup>8</sup>

The questionnaire consists of four sections and 51 statements: 14 items question attitudes towards EBP, perceived benefits and limitations of EBP; 6 items on the use and understanding of clinical practice guidelines; 12 items on the availability of resources to access information and the skills required for the use of those resources; and 19 items covering demographic information. Respondents were asked to rate their agreement to each item, which were scored on a five-point Likert scale (ranging from 1: strongly disagree to 5: strongly agree).

Questionnaires were distributed by the principal investigator in each institute; along with instructions to return anonymously back to them. The individual values of the scored responses within each dimension were summed to yield an overall score for each dimension per respondent, along with five sections' score. Items 35, 36, 40, and 42 relating to the license and certification were not applicable and hence excluded, since physiotherapy practice in India does not consist of clinical license component.

## Results

Data was analyzed using SPSS v.20.0. The response rate was 95% (n=75), of which 78% were females and 22% were males with mean age 21.5±1.5 years. Areas of specialization were orthopedic (48%), neuromuscular (20%), rehabilitation (16%), and sports (16%). 85% participated in continuing education courses regularly, and 90% were clinical instructors to other physiotherapy students. 90% participants indicated that they worked in suburban facility majorly. Other details such as hours worked per week, number of patients seen per day and the number of other full-time physiotherapists in the same facility are shown in Figs. 1, and 2 respectively.

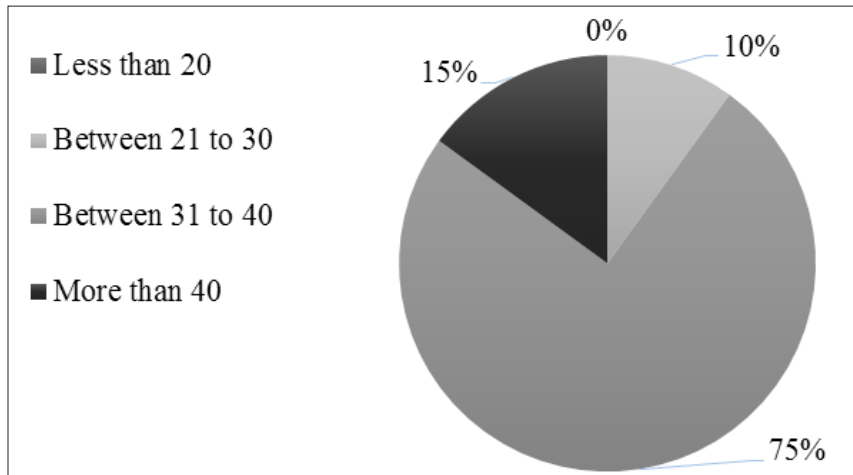


Figure 1. Hours worked weekly

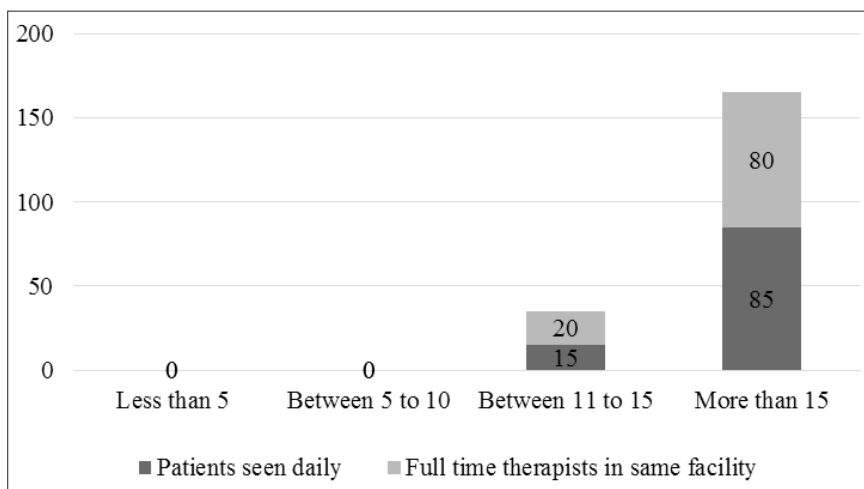


Figure 2. Patients seen and Full time therapists in same set-up

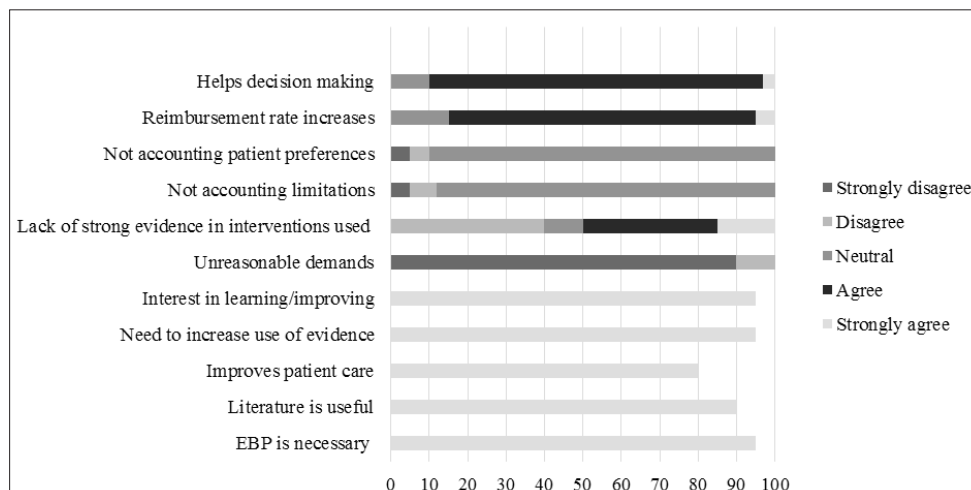


Figure 3. Attitudes and Beliefs about EBP

Attitudes and beliefs towards EBP (items 1–14) were assessed for frequencies and percentages as shown in Fig. 3. 95% of respondents strongly agreed that EBP is necessary in practice of physical therapy, 90% strongly agreed to literature and research findings being useful in day-to-day practice and 88% strongly agreed that EBP improves patient care. 95% agreed on the need to increase use of

evidence in daily practice, as well as the interest in learning or improving skills necessary to put EBP in practice. They strongly disagreed to EBP placing unreasonable demand on physiotherapists (90%), whereas there existed diverse views on the lack of strong evidence in most of interventions used. Respondents were found to be neutral on EBP not taking into account limitations of clinical practice setting (88%), and

also the patient preferences (90%). They agreed to reimbursement rate increasing if EBP was incorporated into practice (80%), and also to EBP helping make decisions about patient care (87%). When searching for information to be used in clinical practice, results showed that the frequency of reading and reviewing research related to their practice, and of using professional literature and using databases was between two to five times per month whereas of using MEDLINE or other database was less than once.

Knowledge and use of clinical practice guidelines analysis showed 65% responding that practice guidelines were available, 46% agreed to have actively sought practice guidelines and 24% agreed to have used practice guidelines in their practice. 76% were aware of practice guidelines being available online whereas only 28% were able to access practice guidelines online. However, of this, only 10% agreed to have incorporated patient preferences with practice guidelines. Availability of resources to access information and personal skills in using those resources showed that 65% had access to current research through professional journals in paper or electronic form. 30% had access to databases and 15% had ability to access databases at other locations other than their facility. Figure 4 shows the frequency of participants for other items in this section.

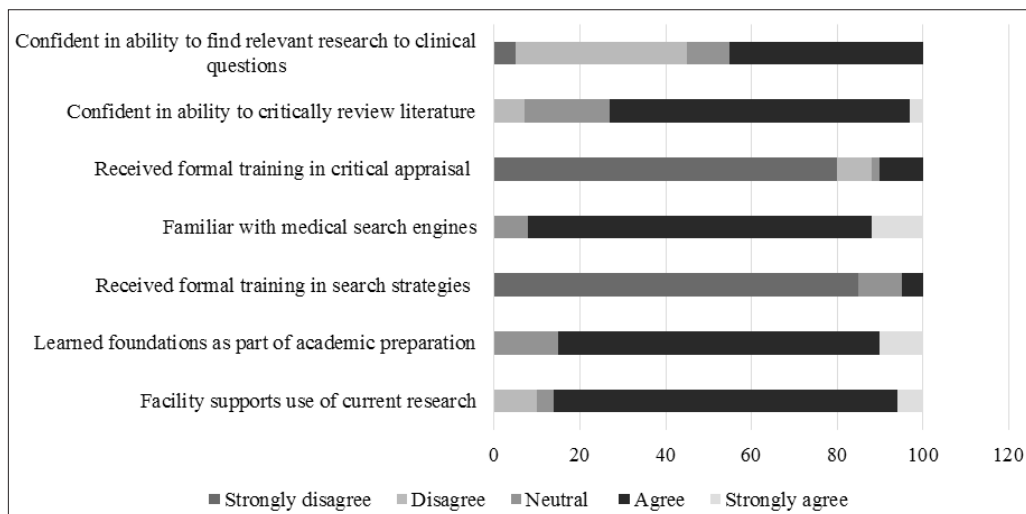


Figure 4. Education and skills about EBP

Figure 5 shows the Understanding of research terms, and percentages of subjects who responded ‘understand somewhat’ or ‘understand completely’. With reference to barriers in the use of EBP in clinical practice, 75% indicated lack of understanding of statistical analysis as the most important barrier, and nearly 60% indicated lack of research skills as one of the top three barriers, followed by lack of generalizability of literature to patient population. Figure 6 shows the detailed analysis of other barriers reported.

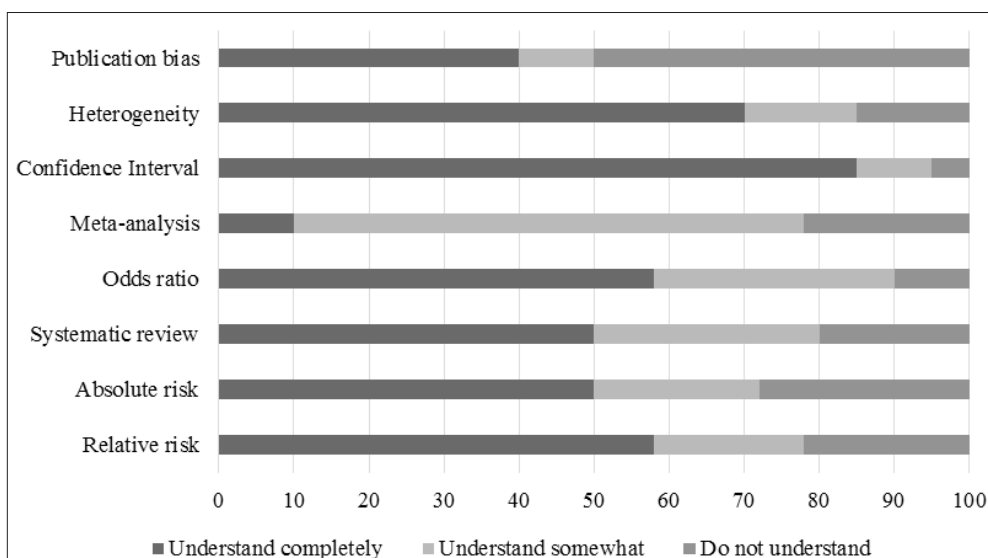
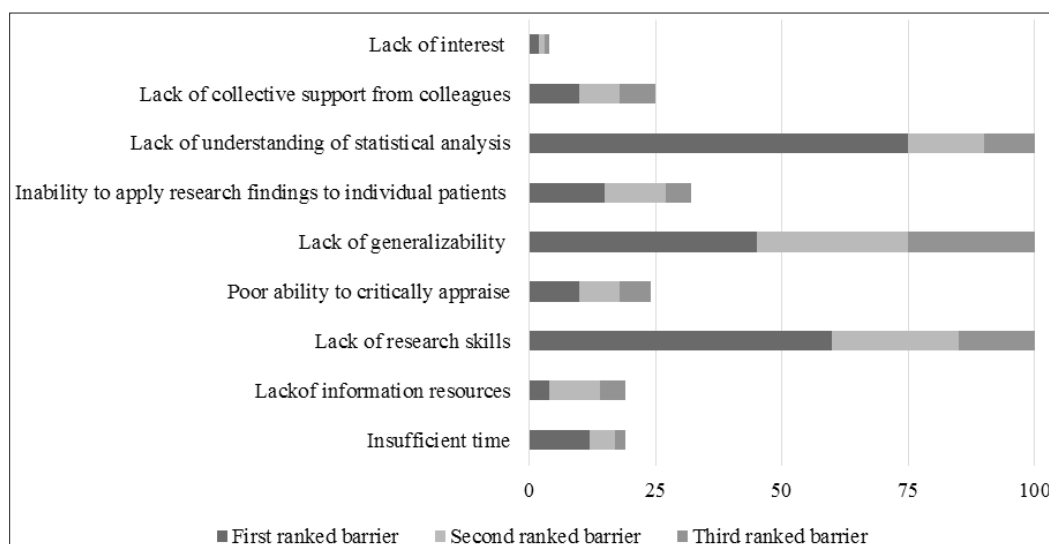


Figure 5. Understanding of research terms



**Figure 6. Ranking of barriers in EBP**

## Discussion

The results of the present study suggest that the knowledge of postgraduate physiotherapy students was good along with beliefs about EBP; however, the practices of EBP and skills were relatively poor. They understood most of the mentioned research terms well, except meta-analysis, where most of them understood only somewhat. Amongst the barriers, lack of research skills, statistical analysis and lack of generalizability were ranked highest, suggesting the importance of professional training courses for physiotherapy students. Also, they demonstrated strong agreement to most items on attitudes and beliefs with few items such as not accounting limitations and patient preferences showing mostly neutral response.

Similar studies have previously been presented in international studies on physicians, occupational therapists and physical therapists, using the same questionnaire. Attitudes have been shown to be the individual main determinant factor for evidence-based practice.<sup>9</sup> Results of the present study suggest that the physiotherapy students believe that the use of evidence in practice is necessary, that the literature is helpful to them in their practice and decision making, and that quality of patient care is better when evidence is used. These findings are similar to the previous studies undertaken by Jette et al, where physical therapist members of APTA (American Physical Therapy Association) showed a positive attitude about EBP and were interested in learning or improving the skills necessary to implement EBP. They noted that they needed to increase the use of evidence in their daily practice.<sup>6</sup> The importance of attitudes is also supported by Bridges et al.,<sup>10</sup> who identified attitude as one of the three predictors for the propensity to adopt evidence-based practice, desire for learning, highest degree held and practicality. These findings highlight the importance of taking into consideration individual attitudes when aiming to increase the use of evidence-based practice. In this study

also, physiotherapy students showed a positive attitude towards EBP, emphasizing the role of this core component in the foundation of EBP. It also offers a high possibility of increased use of EBP in the future in a developing country like India.

Kamwendo et al. investigated perceptions and attitudes toward research, intentions to perform as well as actual engagement in research-related activities in a sample of Swedish physiotherapists, and concluded positive attitudes with all mean attitude ratings were on the positive side of the scale.<sup>11</sup> High workload and lack of time were the most commonly mentioned barriers to participation in research-related activities, which is inconsistent with the findings of the present study where lack of training in statistical analysis and research skills were most common barriers. A professional training course within the profession, allowing more precision in conducting research should be encouraged. McInerney et al. conducted a similar study in healthcare professionals in South Africa and concluded lack of knowledge pertaining to EBP, lack of access to research findings, insufficient evidence, and insufficient time as significant barriers.<sup>12</sup> In the past few years, concept of EBP in healthcare system is growing in India; however, there exists lack of formal training which needs to be addressed by and large.

Understanding of research terms is high in the present study suggesting increased focus on these skills in the curriculum. Research terms with lowest understanding were meta-analysis followed by odds ratio. This is in line with a study done by Heiwe et al. among a group of dieticians, occupational therapists and physiotherapists where odds ratio was a single research term not understood by the participants.<sup>13</sup> Previous research among occupational and physical therapists has shown that difficulty interpreting results is a common problem for the use of evidence-based care.<sup>14</sup> One possible explanation can be that odds ratio is



less often used within the area of evidence-based medicine. Physiotherapists need an increased understanding of this research term in order to be able to understand and apply findings in evidence-based guidelines.

A few limitations of the present study were that data was collected from a university hospital, indicating that the results may not be generalized to other settings, and also future studies can be conducted with larger population and varied setting. The response rate in the current study was adequate. Findings from this study provide a reflection of current scenario of EBP in Gujarat, physical therapists have a positive belief and attitude towards evidence-based practice. They also have a high level of knowledge concerning research terms but not enough understanding of the specific terms within evidence based medicine, for example, important terms such as meta-analysis and odds ratio. They show a behavioral pattern that includes being aware of, accessing and using evidence-based guidelines.

## Conclusion

Postgraduate physiotherapy students showed positive attitudes and beliefs about EBP and were interested in learning or improving the skills lacking to implement EBP. Despite the ambition of physiotherapists to incorporate evidence-based practice in their work, this was not done due to various causes. This could be altered through support from the organization and management (e.g., including search for and implementation of updated evidence-based guidelines as part of the curriculum and providing time for this). By doing so, it would make evidence-based practice easy to access, time-efficient, and relevant to clinical practice need.

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**Conflict of Interest:** None

## References

1. Michels E. Evaluation and research in physical therapy. *PhysTher* 1982; 62: 828-34
2. Currier DP. Elements of Research in Physical Therapy. 3rd ed. Baltimore, Md: *Williams & Wilkins* 1990.
3. Sackett DL, Rosenberg WM, Gray JA et al. Evidence based medicine: what it is and what it isn't. *BMJ* 1996; 312: 71-72.
4. Grimshaw JM, Thomas RE, MacLennan G et al. Effectiveness and efficiency of guideline dissemination and implementation strategies. *Health Technol Assess* 2004; 8: 1-72.
5. Aarons GA, Glisson C, Hoagwood K et al. Psychometric properties and US national norms of the evidence-based practice attitude scale (EBPAS). *Psychol Assess* 2010; 22(2): 356.
6. Jette DU, Bacon K, Batty C et al. Evidence-based practice: Beliefs, attitudes, knowledge, and behaviors of physical therapists. *Phys Ther* 2003; 83: 786-805.
7. McColl A, Smith H, White P et al. General practitioner's perceptions of the route to evidence based medicine: A questionnaire survey. *BMJ* 1998; 316: 361-65.
8. O'Donnell CA. Attitudes and knowledge of primary care professionals towards evidence-based practice: a postal survey. *J Eval Clin Pract* 2004; 10: 197-205.
9. Estabrooks CA, Floyd JA, Scott-Findlay S et al. Individual determinants of research utilization: A systematic review. *J Adv Nurs* 2003; 43: 506-20.
10. Bridges PH, Bierema LL, Valentine T. The propensity to adopt evidence-based practice among physical therapists. *BMC Health Serv Res* 2007; 7: 103.
11. Kamwendo K. What do Swedish physiotherapists feel about research? A survey of perceptions, attitudes, intentions and engagement. *Physiother. Res Int* 2002, 7: 23-34.
12. McInerney P, Suleman F. Exploring knowledge, attitudes, and barriers toward the use of evidence-based practice amongst academic healthcare practitioners in their teaching in a South African university: A pilot study. *Worldviews on Evidence-Based Nursing* 2010; 7: 90-97.
13. Heiwe S, Nilsson KK, Tyni-Lenné R et al. Evidence-based practice: Attitudes, knowledge and behaviour among allied healthcare professionals. *International Journal for Quality in Healthcare* 1 Apr 2011; 23(2): 198-209. <https://doi.org/10.1093/intqhc/mzq083>.
14. Salbach NM, Jaglal SB, Korner-Bitensky N et al. Practitioner and organizational barriers to evidence-based practice of physical therapists for people with stroke. *Phys Ther* 2007; 87: 1284-303.

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