

## Evidence-based physical therapy: level of knowledge of students from private high education institutions in Salvador - BA

### Fisioterapia baseada em evidências: nível de conhecimento dos acadêmicos da rede privada em Salvador - BA

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**RESUMO | INTRODUÇÃO:** A Prática Baseada em Evidências (PBE) é definida como o uso da melhor e da mais recente evidência de pesquisa. Esta desenvolveu-se com a finalidade de promover não só a melhoria da assistência à saúde, mas também do ensino universitário, de forma preparar os futuros profissionais para os desafios da assistência em saúde. **OBJETIVO:** Investigar o nível de conhecimento dos acadêmicos dos cursos de graduação em Fisioterapia de três instituições privadas de Salvador-BA sobre a PBE. **Materiais e Métodos:** Estudo de delineamento transversal, cuja população foco foram 198 acadêmicos do último ano do curso de Fisioterapia provenientes de três instituições da rede privada de ensino. Foi aplicado um questionário composto por 12 questões objetivas com intenção de avaliar o nível de conhecimento dos conceitos que envolvem a PBE. **RESULTADOS:** Dos 198 estudantes matriculados, 155 (78,4%) participaram do estudo. A maioria dos acadêmicos (97,9%) referiu ter pouco ou nenhum conhecimento a respeito da PBE. Além disso, verificou-se que os acadêmicos em sua vasta maioria não conheciam um número substancial de bases de dados eletrônicas, não possuíam habilidade para desenvolver estratégias de busca adequadamente em bases de dados ou a respeito de como selecionar e avaliar artigos científicos. **CONCLUSÃO:** A análise e interpretação dos dados revelaram que os acadêmicos das instituições avaliadas apresentavam limitado conhecimento concernente aos conceitos de PBE.

**PALAVRAS-CHAVE:** Prática baseada em evidências. Fisioterapia. Estudantes.

**ABSTRACT | INTRODUCTION:** The Evidence-Based Practice (EBP) is defined as the use of the best and latest cutting-edge research. This last edition aimed to promote health improvement, but also university education, in order to prepare future professionals for the challenges of health care. **OBJECTIVE:** To investigate the level of knowledge of students of undergraduate courses in Physiotherapy from three private institutions of Salvador-BA on the EBP. **Materials and Methods:** Cross-sectional study, whose focus population was 198 undergraduate students of the Physiotherapy course from three institutions of the proven teaching network. A questionnaire composed of 12 objective questions was applied with the intention of evaluating the level of knowledge of the concepts that involve the EBP. **RESULTS:** Of the 198 students enrolled, 155 (78.4%) participated in the study. The majority of academics (97.9%) reported having little or no knowledge about EBP. In addition, it was found that academics in their vast majority did not know a substantial number of electronic databases, did not have the ability to develop adequately search strategies in databases or on how to select and evaluate scientific articles. **CONCLUSION:** The analysis and interpretation of the data revealed that the academics of the institutions evaluated had limited knowledge concerning the concepts of EBP.

**KEYWORDS:** Evidence-based practice. Physiotherapy. Students.

## Introduction

Scientific evidence is defined as a set of elements used to support the confirmation or denial of a particular scientific theory or hypothesis. In order to have scientific evidence it is necessary that there be a survey carried out within scientific precepts. Clinical research are fonts of evidence and, the more clearly delineated, the stronger and more recognized the evidence<sup>1,2</sup>.

Questions about the effectiveness, rationale, indications and results of various practices within the health system, motivated the construction of a new paradigm, called Evidence-Based Medicine (EBM). As the precepts of EBM were incorporated into other areas, it became known as Evidence Based Practice (EBP)<sup>3</sup>. The Evidence-based physiotherapy is defined as the conscious, explicit and thoughtful way of use, of the best and latest research evidence of clinical decisions regarding patient care<sup>2</sup>. It provides the perfect balance between the best scientific evidence and personal experience, therefore, the evidence does not replace skill and personal experience of the professional, who judges and evaluates whether the evidence applies to the patient in question and if it can be integrated into clinical decision-making<sup>4</sup>.

For many years, physiotherapists acted based on imported rehabilitation books, whose striking feature was the prompt “recipes”, which dispensed the need to think for the decision-making. Today, the demand and interest in applying scientific knowledge in physiotherapeutic practice, whether is conducting your own research or using evidence brought by other researchers, is a reality and wins every time it's more adept<sup>4,5</sup>.

The implementation of EBP, demands abilities from the professional which are not traditional, that allows how to obtain, interpret and integrate the evidence from the patient's clinical situation. This flow of actions makes clinical practice outcome more concrete and secure<sup>1,4,6</sup>.

Despite the large number of scientific papers addressing the evidence-based practice theme, there is little research regarding the level of knowledge

about its concepts during the period students undergo health studies, hence, the relevance of this research. Thus, the objective of this study was to investigate the knowledge of last year's academics undergraduate courses in Physiotherapy from three institutions of the private school network in Salvador city - Bahia.

## Methods and Materials

It is a cross-sectional study, carried out in three Institutions of Higher Education (IHE) in the city of Salvador, Bahia, Brazil.

The research had as target population all the academics in the last year of the undergraduate Physiotherapy course. The data collection was conducted in person, during the first week of November 2015, through an application, in form of a questionnaire containing objective questions about the proposed theme. It was included in the research academics in their last year of graduation accepting participation by signing the Informed Consent Form (ICF). It was excluded students who were not in the classroom during the time of data collection or students enrolled in unit during the last year.

A self-applied questionnaire was used to collect data, proposed and elaborated by the researcher, formed by twelve objective questions which evaluated: level of knowledge about the topic “Evidence-Based Practice”; agreement of the necessity for EBP in physiotherapeutic clinical practice; the existence of a discipline in the university that addresses the topic and; other related elements.

Following data collection, the data were charted in the software Microsoft Office Excel 2007 version and the statistical analysis was performed using a descriptive method from the determination of absolute frequencies (n) and relative (%). This study was approved by the Research Ethics Committee (REC) of the University Salvador (UNIFACS) under the terms of no. 1,286,253 not presenting ethical violations according to the resolution 466/12 of the National Health Council.

## Results

Of the total of 198 students enrolled in the last year of the undergraduate physiotherapy course of three private schools, 155 (78.4%) answered the questionnaire - 33 (16.7%) were not present in the room at the time of collection and 10 (5.05%) refused to participate.

It was observed that none of the institutions possessed a specific discipline and 139 (89.9%) academics stated that they did not recognize such concepts in other disciplines during the course. When asked the level of knowledge they believed to have about EBP, 104 students (67.3%) admitted to having little or no knowledge of the subject.

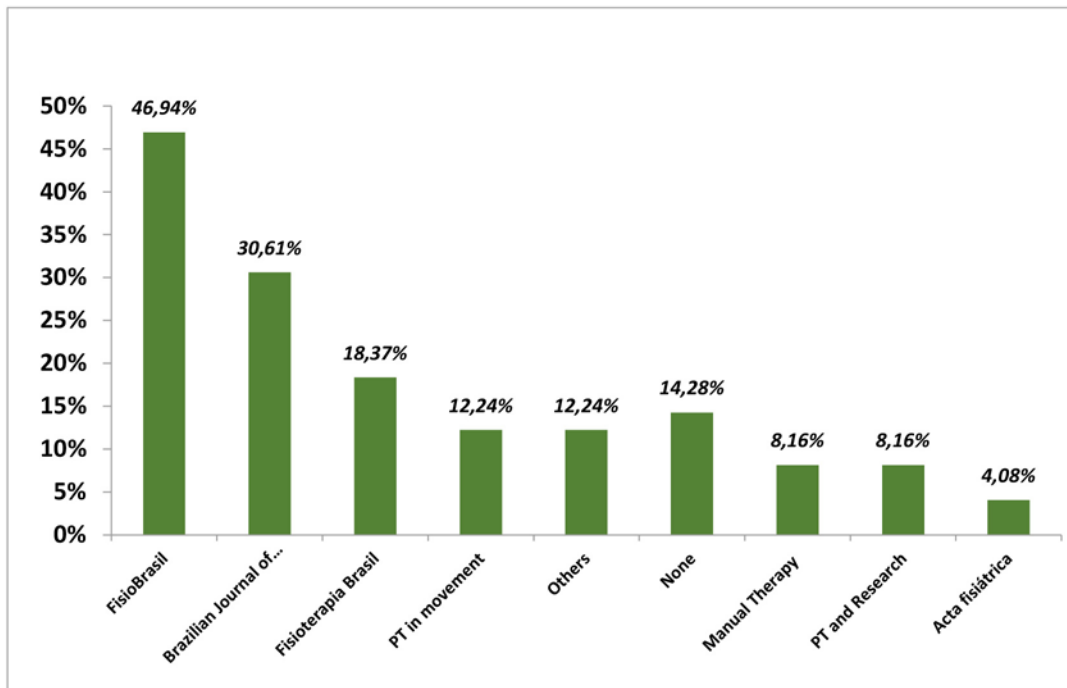
With regards to the use of these concepts in a physiotherapeutic setting, 126 (81.6%) academics

judged necessary. When asked about of the PICO strategy, 142 students (91.8%) affirmed not to know such methodology, therefore, a major limitation in understanding of the initial process of implementation of the EBP.

When questioned regarding the use of booleans operators for the bases of data procedure, 97 participants (62.5%) judged no knowledge and 51 (32.8%) did not use them in any circumstance during a baseline research using electronic data.

Concerning the knowledge of scientific journals of the area, 22 (14.2%) academics did not know specific journals. The magazines most known, presented in Figure 1, were the Revista FisiBrasil (46.9%), the Brazilian Journal of Physiotherapy (30.6%) and the Revista Fisioterapia Brasil (18.3%).

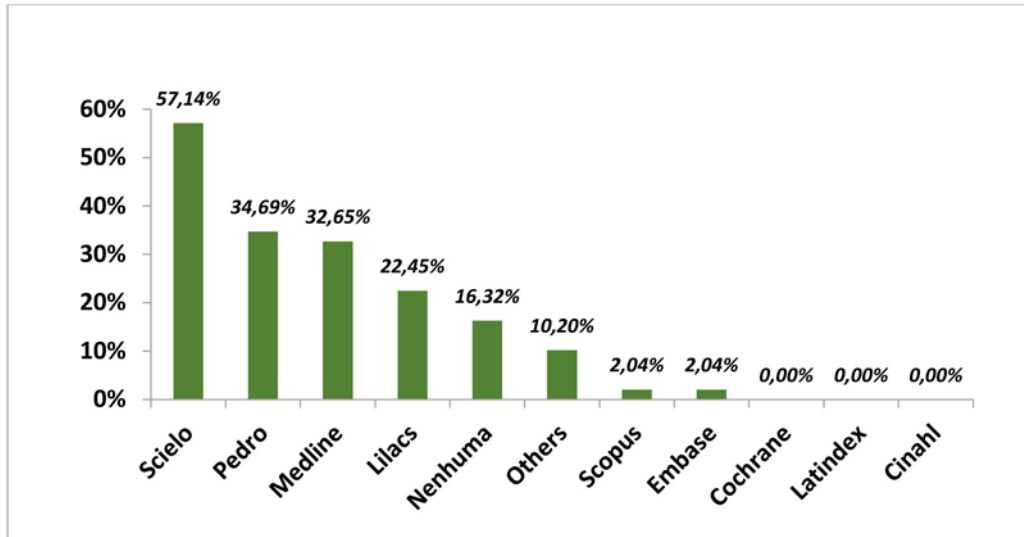
Figure 1. National journals of physiotherapy (PT)



Source: The authors (2018).

When asked in relation to knowledge on electronic databases, 25 (16.3%) answered that they had no knowledge of any data base. Among the scientific data bases (Figure 2) most cited by academics are Scielo (57.1%), Pedro (34.6%) and Medline (32.6%).

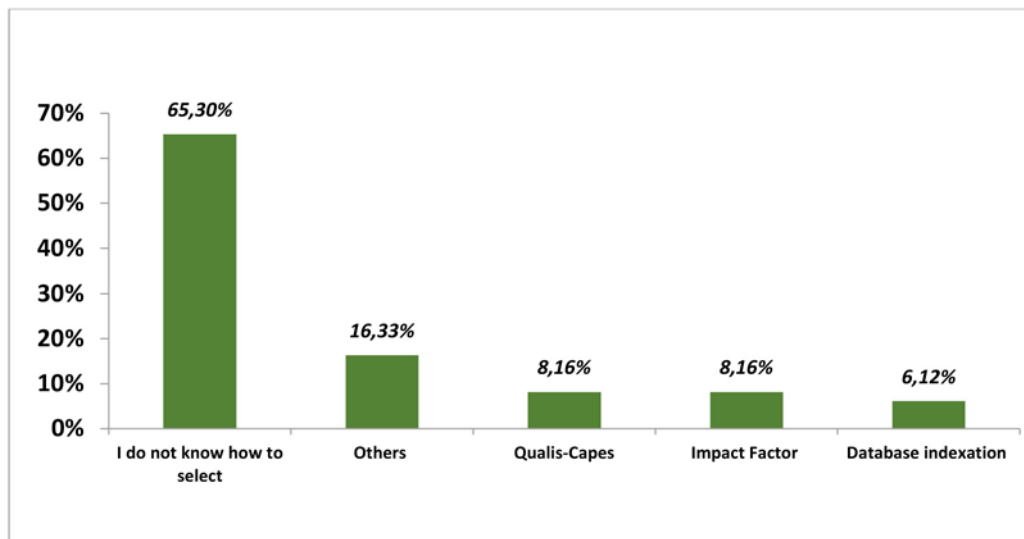
Figure 2. Electronic databases



Source: The authors (2018).

Regarding the parameters used to select a scientific journal that best represent the scientific scenario to use for academic purposes (Figure 3), 129 academics (65.3%) reported not having sufficient knowledge to carry out such selection, only 32 (16.3%) reported having knowledge about evaluation systems of journals such as impact factor or qualis, and 32 (16.3%) claimed to use parameters not listed, such as: professors' recommendation and availability at their institution of education.

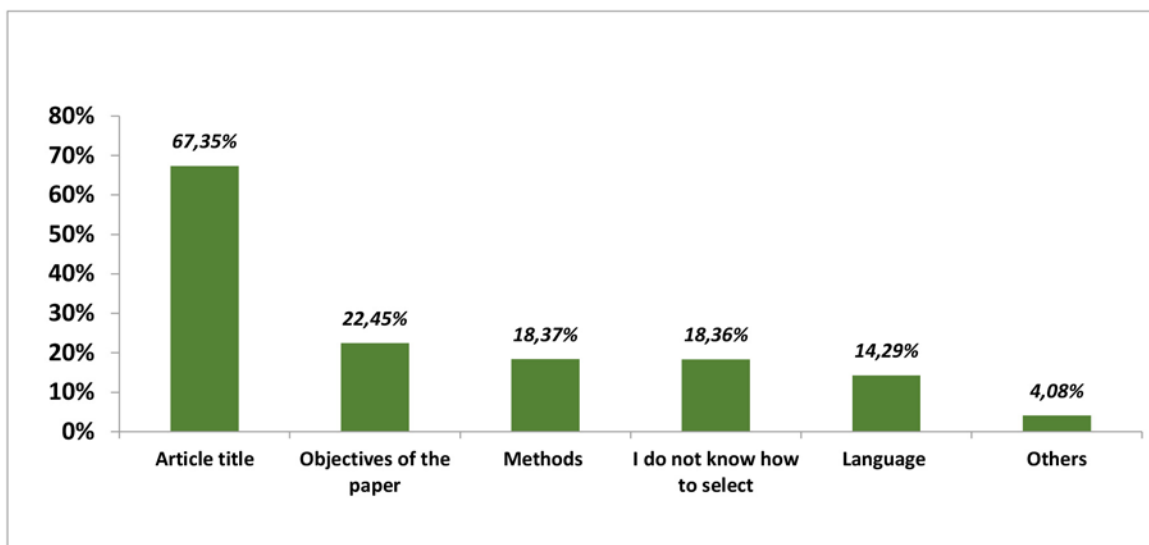
Figure 3. Parameters to select scientific journals



Source: The authors (2018).

Regarding the criteria for selection of articles for reading (figure 04), it was observed that 28 (18.3%) students said they did not know how to select a scientific article. In addition, 104 (67.3%) academics mentioned using only the title of the article as a parameter.

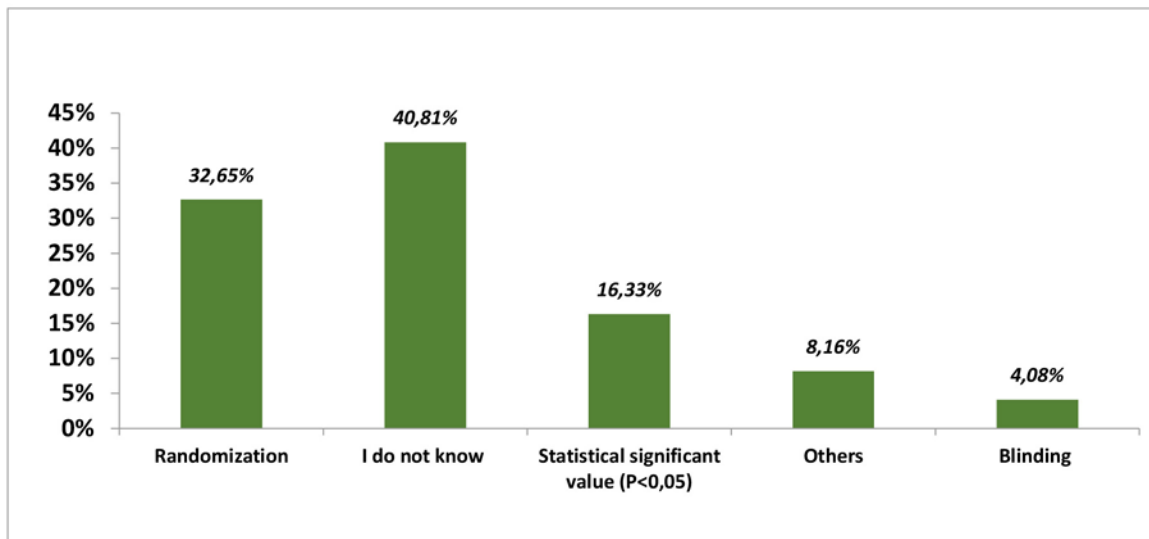
Figure 4. Parameters to to select articles



Source: The authors (2018).

Among the parameters used as an indicative of adequate scientific production, 63 students (40.8%), informed that they were not aware of which parameter to consider, while 50 (32.6%) academics identified the randomization and the significant statistical value, 50 (32.8%) as quality markers in the scientific article (Figure 5).

Figure 5. Parameters to determine adequate scientific production



Source: The authors (2018).

The last question in the questionnaire showed that 32 (16.3%) academics knew the Pedro scale evaluation of methodological quality and statistical description of randomized controlled studies.

## Discussion

It was seen in this study that most academics do not have the necessary understanding to build a reflexive practice based on scientific evidence, which could compromise in some way the process of therapeutic conduction of assisted patients. According to Oliveira et al.<sup>7</sup> 2010, the use of evidence to support the clinical practice does not guarantee the success of results, but it decreases the possibility of bad results, increasing the efficiency of the professional and minimizing costs. This efficiency brings consequence to the professional, such as, the appreciation and growth of their profession.

Lack of incentive and research ability since graduation is one of the barriers to implement in the clinical practice by students in their professional future, being evidenced by a survey conducted in Holand<sup>8</sup> where teachers had a more positive attitude towards intention to participate in scientific research in relation to students and professionals. Although, overall, the teachers' attitudes presented only one difference between the groups, this study emphasized the need for greater incentive for scientific initiation<sup>8</sup>. Among our findings, we considered it to be most important the fact that 178 (89.9%) academics did not recognize the concepts of EBP inserted in the curricular units of the course, justifying possibly due to the lack of teacher incentive as demonstrated in the study previously mentioned.

Through analysis it was observed that many of the academic researchers did not recognize the steps for implantation of EBP, a fact demonstrated through the low level of knowledge expressed concerning the existence of scientific health databases available electronically, lack of knowledge about how to structure a question, a search strategy for scientific material or even selection of articles.

However, this flow of information presents a few barriers, already identified with professionals

physiotherapists, such as: inability with biostatistics, lack of time, ability to apply an intervention considered to be the best in a clinical setting, limitations to generalize the results of studies in a practical situation, socioeconomic and cultural difficulties, public health policy problems, lack of interest in studying, the complexity of therapy in practice, full access to scientific documents, unable to comprehend the full extension of the English language and limitation to continue educational programs<sup>10</sup>.

The identification of a clinical problem occurs through the doubt arising in the practice of care and this should be transformed into a well-structured clinical issue, that facilitates the search via information sources. However, it was demonstrated that 91.8% of physical therapy students do not know how to establish a scientific question, indicating the lack of knowledge in evidence-based practice<sup>8</sup>.

One of the ways suggested in the literature to construct a good question in the bibliographic evidence search is the PICO strategy that represents an acronym for Patient, Intervention, Comparison and Outcomes. A well-constructed clinical question increases the possibility of results with appropriate information to resolve the clinical issue, maximizing the retrieval of evidence in databases. Without this, database searches often result in absence or very large quantity of information that is not related to the scope of the research, that is, unnecessary findings<sup>3,11,12</sup>. Although, in an inquiry with state physiotherapists of São Paulo was identified that these prefer to access databases in the Portuguese and Spanish languages, being the most cited: SciELO, PubMed, Cochrane and PEDro, where less than 1% of the studies at PEDro are in Portuguese<sup>10</sup>. These data are similar with a survey in Holand, where Cochrane, PubMed and PEDro databases were the most cited for scientific research, although still little explored<sup>8</sup>. Our study proved that the Scielo database was the most cited by academics (57.1%) and 16.3% do not know any database.

Almost half (46.9%) of the academics only know one national scientific journal, the physiotherapy journals constitute the means of communication most used to disclosure knowledge produced by the research (scientific production) and computerized

databases have been the main source of search for this information<sup>13</sup>. From the databases accessed through the Internet, PEDro is the only specific in related studies to Physiotherapy and only indexes randomized clinical trials, systematic reviews and clinical practice.

Some academics (14.2%) reported not knowing scientific magazines. The behavior of these data corroborates with that found by Scholten- Peters et al<sup>8</sup>, 2010, which demonstrated that students used books and the opinion of supervisors to resolve clinical issues, this behavior only distances them from the EBP. At present, investigating and applying the best possible evidence is fundamental to improve patients' responses to physiotherapy and cost reduction treatments in general for health-related issues. Growth, however, progressive information on physiotherapy interventions becomes essential as an integral part of the professional update process.

Our study identified the absence of a specific discipline about EBP and already reinforced by Scholten- Peeters et al<sup>8</sup> the need for curricular changes to encourage search in databases and improvement of EBP concepts from early as graduation, therefore, curricular changes were pointed out as necessary in the Scholten- Peeters et al., 2011, to encourage research in databases and improvement of concepts of PBE since graduation. Idea reinforced by Haynes et al., 1998, which stimulates the improvement in effectiveness of education and programs for professionals, based on a continued education on EBP. Several barriers to EBP implementation have already been described and many strategies developed to transpose the best evidence to clinical practice, although many difficulties still persist, it is fundamental to rouse critical reasoning precocious in the investigation of evidence, aiming for the best practice for each patient<sup>15</sup>.

We identified as limitations of the study: First, the sample may not represent the totality of the students in the city of Salvador and second, an instrument developed by the authors which requires validation.

In view of the above, it is imminent the necessity of development of strategies for acquiring the necessary knowledge regarding this modality of contemporary approach. Thus, measures such as

the implementation of a specific discipline within the structure of undergraduate courses, inclusion of these concepts in existing disciplines, or training and capacitating professors in specific programs could make EBP-related learning possible.

## Conclusion

The present study allowed the evaluation of the level of knowledge in physiotherapy graduates in three private educational institutions regarding the concepts related to evidence-based practice. Therefore, it was identified that the analysis and interpretation of the data revealed that the academics have limited knowledge involving this model of clinical approach. Such findings can be directly linked to a non-existence specific discipline that aims to teach EBP or the lack of inclusion of these concepts in existing disciplines.

## Authors Contributions

Melo TA: Supervision of research, data analysis and article. Santos PS: Data collection and writing of the article. Soares NS: Review and formatting the manuscript for journal submission Assunção G: Data analysis and review.

## Conflict of Interest

No financial, legal or political conflict involving third parties (government, private companies and foundations, etc.) was declared for no aspect of the submitted work (including but not limited to grants and funding, advisory board, study design, manuscript preparation, statistical analysis, etc.).

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