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What Brazilian students think and how they act in the face of evidence-based practice

Abstract

Introduction: Physiotherapy through evidence-based practice (EBP) can enrich information about the history of the disease, conduct the examination, aid in therapeutic diagnosis, and guide appropriate intervention.

Objectives: To describe the attitudes, knowledge and behaviors of students of the physiotherapy course regarding EBP, as well as the main barriers found for its full implementation.

Methods: This is a *survey* study, carried out among students from the 7th semester of the physiotherapy course from all Brazilian macro-regions and duly enrolled in invited Higher Education Institutions (HEIs).

Results: About 97% agreed that EBP is important in clinical practice, 31.94% said they did not receive formal training in EBP or received it partially during undergraduate studies, 87.5% said they have the ability for quality clinical research and 69.44% admitted to being able to incorporate practical guides to their learning and/or care. Among the main barriers pointed out for not performing EBP are insufficient time for scientific research, lack of information and lack of articles on the general population to which the patient belongs.

Conclusion: The students considered the EBP an important tool in higher level learning and most of them both seek and apply knowledge present in relevant clinical research in their learning and/or care, although a considerable percentage never received formal training or read few articles per month. Among the barriers pointed to the achievement of EBP, the lack of skill for relevant scientific research and the lack of findings in the scientific literature for a certain population of patients, are factors that can be fully assisted by the higher education institution, thus culminating in the formation of a full professional and capable of providing a treatment of excellence.

Keywords: evidence-based medicine, physiotherapy, professional competence

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Introduction

Since its regulation by Law 938, of October 13, 1969, the physiotherapist integrates multidisciplinary teams with the aim of promoting health prevention, treatment and rehabilitation actions.[1] Notably, from the year of its creation to the present moment, there is a huge emergence of scientific articles in the field of physiotherapy, as well as an increase in the search of these professionals for updated information through good quality sources, which can support the best possible assistance.[2]

From this perspective, the Evidence-Based Practice (EBP) emerges, thus defined as the "systematic process of discovering, evaluating and using the results of contemporary scientific research as a basis for clinical decisions", which has been advancing in all areas of health and, especially, among physiotherapy professionals.[3] For other authors, EBP is nothing more than health care based on the conscious, explicit and judicious use of the most current research evidence when making clinical decisions about a particular patient.[4,5] For Santos et al.[6] EBP is defined as the use of the best and most recent research evidence in the management of any type of patient.

It is noteworthy; however, that good integration between scientific evidence and clinical practice requires time, skill to search for relevant literature and encouragement for this.[7]

Despite all its importance, there are few studies that measure the use of EBP among Brazilian students, the aim of this research being then: to describe the attitudes, knowledge and behaviors of students of the physiotherapy course regarding EBP, as well as the main barriers found for its full implementation.

Methods

This is a descriptive, quantitative study with cross-sectional design and *survey* type. The research was authorized by the Ethics in Human Research Committee under CAAE number 37665120.0.0000.8135.

The study included 72 students of both genders, duly enrolled in public and private higher education institutions, attending between the 7th and 10th semesters and only the questionnaires filled out in full and sent in the pre-established time were considered for statistical purposes. The following exclusion criteria were adopted: not being enrolled in the semester in which the study took place, not signing the TCLE and/or not properly filling out the data collection instrument.

The questionnaire used in the research was based on the *Evidence-Based Practice (EBP) Questionnaire,* as recommended by Jette et al.[3] specifically developed for this purpose and thus divided: socio-demographic aspects (7 questions); personal attitude, use and perception of the benefits and limitations of EBP (8 Questions); use

and understanding of practical guides in learning and/or Clinical Practice (3 questions) and finally; personal skills for scientific research, availability of resources and access to Information (7 questions).

The study volunteers were contacted through their respective coordinators and/or teachers and received the electronic form prepared on the Google Forms platform through WhatsApp. Students from all Brazilian macro-regions responded to the instrument, which was available for 90 days and after this period no new receipts were accepted.

The results were compiled in Excel and the statistical analysis of choice was descriptive.

Results

The study sample comprised 72 physiotherapy students of both genders from public and private institutions from all five Brazilian macro-regions (Table 1).

Table 1 Sample profile

Female gender	81,94%
Age from 18 to 28 years	80,55%
Bachelors	81,94%
From private university	83,33%
Coming from Bahia and Rio Grande do Sul States	81,94%
Attending between the 8th and 9th semesters	52,77%
They read 1 article or less per month	30,55%

All students who agreed to participate in the survey answered a socio-demographic questionnaire containing eight questions and another based on the *Evidence - Based Practice (EBP) Questionnaire*, as recommended by Jette *et al.*[3] containing 18 questions and specifically formulated for this purpose and whose main items are highlighted in Table 2, Table 3.

Table 2 Profile of students regarding the need, application and training of EBP during graduation

	D	PD	A	PA	N
EBP is necessary in clinical practice	1,38%	0%	90,27%	6,94%	1,38%
EBP can be applied in high demand settings	2,77%	2,77%	70,83%	18,05%	5,55%
EBP does not consider my limitations	43,05%	15,27%	12,5%	22,22%	6,94%
EBP does not consider patient preferences	41,66%	22,22%	20,83%	9,72%	5,55%
I have received formal training in in searching relevant scientific literature	19,44%	12,50%	31,94%	30,55%	5,55%
My clinical care and/or learning is based on relevant scientific literature	0%	6,94%	62,5%	26,38%	4,16%
I have the skills for quality scientific research	87,50%	11,11%	1,38%	0%	0%
I am able to incorporate my patients' preferences into clinical guides	12,5%	6,94%	44,44%	25%	11,11%

D, disagree; PD, partially disagree; A, agree; PA, partially agree; N neutral

Table 3 Main barriers cited for not performing EBP among physical therapy students

Insufficient time for research	**43,05%**
Lack of ability for relevant articles research	23,28%
Spending too much time on social media	21,91
Lack of general findings from the population to which the patient belongs	11,76%

Discussion

Evidence-based practice (EBP) is nothing more than the integration of scientific evidence with patient perspectives and professional expertise.[8] According to Mena-Tudella et al.[9] the EBP process has five phases that necessarily need to be respected: apply, acquire, judge, apply and evaluate. It is also spoken in the spirit of research and dissemination of results. For Santos et al.[6] EBP is defined as the use of the best and most recent research evidence in the management of any type of patient.

It is known that EBP is a primary need for a safe and quality care, however, it is also a reality the existence of studies in Physiotherapy of low methodological quality, published in Portuguese, a fact that can mistakenly influence the clinical practice of the profession.[10] It is true, however, that the physiotherapy practice through evidence-based practice can enrich information about the history of the disease, conduct the examination, assist in the therapeutic diagnosis and guide the appropriate intervention.[3]

In this sense, our study pointed out that 97.21% of the interviewed students agree that EBP is necessary for learning and good clinical care; however, approximately 31.94% stated that they had not received any formal training in scientific research and 30.55% stated that they had received it partially. Similar results were found by Santos et al.[6] which evaluated 198 final-year physiotherapy students and observed that 89.9% responded not to recognize the principles of EBP in other subjects during academic training, although 81.6% recognized that their mastery is necessary for good clinical practice. Also the study by Lorena et al.[11] conducted among 274 medical students, pointed out that 94.3% agree with the use of scientific evidence for good clinical practice, however, only 30% said they received information or formal training on digital resources during graduation.

In the research of Perraton et al.[12] 202 students were interviewed and the authors found that 86% researched practical guides for their academic practice decisions at least once a week and most reported spending at least 2 hours a week reading or searching scientific literature. The authors also stated that among the barriers cited by these students for EBP were: insufficient time for research, limited access to databases and few scientific findings available for certain patients groups. In our survey 30.55% of the students stated that they read one article or less per month, approximately 87.5% of the sample admitted not having the ability for quality scientific research, only

30.55% stated that EPB considers the patient's preferences and 43% also agreed that the lack of time for research is the main barrier to EBP.

Also in our study, 34.72% agreed that the fundamentals of EBP do not consider students' preferences, a fact also observed by McEvoy et al.[13] who, when training 127 physiotherapy students from Norway at different times of graduation, observed that the EBP was more distant from the students' preferences in the first year of undergraduate course when compared to the fourth and final year of the course.

When questioned if their academic care and/or learning were based on recent literature, 62.5% of the sample answered yes and for this finding it is believed that the observation process in the classroom should be followed by applicability as soon as possible for better absorption of information, a fact that generally does not occur in the first years of undergraduation.[13]

In our study, we observed that 19.44% stated that they were not able to incorporate patients' preferences into clinical guidelines. For Para Olsen et al.[14] students with little experience in EBP should initially receive more support in well-founded practices than information on scientific research, since they often copy the behaviors of their teachers, who, in turn, should be encouraged to always provide care based on recent and relevant scientific literature.

Regarding the main barriers faced by students to perform EBP, our research pointed out that 43.05% did not perform it due to lack of time for an adequate survey, while 23.28% reported not having the ability to search for relevant articles and 11.76% had difficulty in searching for articles in a specific population of patients, other barriers are described in Table 3. Similar results to ours were described in the work of Lorena et al.[11] whose main barriers mentioned were in the following order: difficulty in choosing keywords suitable for a good search, lack of time and, little ability to select among the large amount of documents retrieved in the searches.

Santos et al.[6] reported that the lack of incentive and skill for scientific research and the teacher's negligence in the adequate orientation to EBP are the main barriers to its implementation in the practice performed by students and future professionals. These findings corroborate with those of Sampaio et al. who observed that the lack of integration between scientific production and clinical practice, as well as lack of systematization of practice, contribute to the poor understanding and low adherence of EBP.

For Jette et al.[3] the limited access to information, the complexity of the available articles, the inability to interpret these studies, the existence of conflicts between the literature and patient preferences, as well as the presence of scarce economic resources have been widely reported factors such as those that remove EBP from the professional and academic routine.

In this scenario, it is necessary that universities promote: (1) understanding of the importance of EBP; (2) promotion of training in scientific research; (3) inter-professional relationship; (4) promotion of specific professional skills and; (5) adequate clarification on the five steps of EBP (question, research, evaluation, applicability and evaluation of results).[15]

To better systematize the EBP at graduation, it is important to know the strategy of McEvoy et al.[13] which proposed three moments of formal training to physiotherapy academics: the first in the first year of the course, the second in the second year of the course and the last in the fourth year of the course. All of them last for 13 weeks and with a completion work, as a criterion for obtaining certification. The authors of this research agree with the methods cited as a model to be followed not only for the formation of excellent students but also of highly trained professionals.

Also as a suggestion for better teaching and applicability of EBP in higher education institutions, we also cite the proposal of a Bulgarian University for graduation, containing five modules in the curriculum of students focused on EBP: (1) language learning; (2) scientific behaviors; (3) biomedical sciences; (4) ethical aspects and; (5) improvement in the development of reading and writing scientific papers, oratory and clinical fluency (which would mean scientific search ability and practical applicability).[16]

It is known that the implementation of EBP in universities depends on several factors: conditions of access to the internet by students and teachers; level of competence for teaching and research; interest and perspective of academics, teachers and the institution itself.[16] But even if these particularities exist around its existence, it is important to recognize that no clinical practice will be the best if it is not guided by quality scientific evidence.[7]

Conclusion

The authors conclude that although EBP is considered necessary by the students represented in the sample and almost all admitted that their clinical care and learning are based on relevant scientific literature, contradictorily, a considerable portion of the interviewees read an article or less per month. Most of the volunteers disagree that the EBP does not consider the patients' preferences and almost half of the respondents reported that they did not receive formal training in quality scientific research at graduation, which may explain the small amount of Brazilian publications compared to more developed countries in the EBP. Among the barriers pointed to the achievement of EBP the lack of skill for relevant scientific research and the lack of findings in the scientific literature for a certain population of patients, are factors that can be fully assisted by higher education institutions, thus culminating in the formation of a full professional and capable of providing an updated and scientific treatment.

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Conflicts of interest

The authors declare no conflicts of interest.

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