



CURRICULUM STRUCTURE OF PHYSIOTHERAPY COURSES AND COMPETENCE BUILDING: A LITERATURE REVIEW

ESTRUTURA CURRICULAR DE CURSOS DE FISIOTERAPIA E A CONSTRUÇÃO DAS COMPETÊNCIAS: UMA REVISÃO DA LITERATURA

ESTRUCTURA CURRICULAR DE LOS CURSOS DE FISIOTERAPIA Y DESARROLLO DE COMPETENCIAS: UNA REVISIÓN DE LA LITERATURA

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RESUMO

Objetivo: investigar como as Instituições de Ensino Superior estão construindo o currículo de seus cursos de Fisioterapia considerando as competências e habilidades previstas nas Diretrizes Curriculares Nacionais. **Metodologia:** foi realizada uma revisão integrativa da literatura com artigos publicados a partir fevereiro do ano de 2002, em inglês, espanhol ou português, excluindo-se aqueles que não estavam disponíveis na íntegra ou que não responderam à pergunta de pesquisa. A pesquisa e o levantamento de dados ocorreram no período de abril a maio de 2019 nas bases de dados: LILACS, MEDLINE e CINAHL. Os descritores utilizados foram: "Fisioterapia", "currículo" e "ensino". **Resultados:** seis artigos foram analisados e dispostos em tabela de acordo com características comuns, entre elas, a proposta curricular e/ou o projeto pedagógico do curso onde estavam descritas as competências e habilidades. Foram encontrados currículos que seguem o modelo tradicional e outros com propostas inovadoras para a formação em Fisioterapia. **Conclusão:** as Diretrizes Curriculares Nacionais foram utilizadas como modelo geral de orientação para a elaboração dos projetos político-pedagógicos e currículos pelas Instituições de Ensino Superior no Brasil, apresentando elementos sobre as competências e habilidades dos egressos. A construção das competências, nesses currículos, deu-se a partir da inserção dos alunos em práticas integradas de estágio curricular, na vivência na prática de atenção à saúde, além da utilização de metodologias inovadoras.

Palavras-chave: Fisioterapia; Currículo; Ensino.

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ABSTRACT

Objective: to investigate how Higher Education Institutions are building the curriculum of their Physiotherapy courses considering the competencies and skills provided for in the National Curriculum Guidelines. **Methodology:** an integrative literature review was performed with articles published from February 2002, in English, Spanish or Portuguese, excluding those that were not available in full or did not answer the research question. The research and data collection took place from April to May 2019 in the databases: LILACS, MEDLINE and CINAHL. The descriptors used were: "Physiotherapy", "curriculum" and "teaching". **Results:** six articles were analyzed and arranged according to common characteristics, among them, the curriculum proposal and / or the pedagogical project of the course where the competences and abilities were described. A curriculum that follows the traditional model and others with innovative proposals for training in physiotherapy was found. **Conclusion:** National Curriculum Guidelines were used as the general guidance model for the elaboration of political-pedagogical projects and curricula by Higher Education Institutions (HEIs) in Brazil, presenting elements about the competences and abilities of the graduates. The construction of competences in these curricula was based on the insertion of students in integrated curricular internship practices, experience in health care practice, and the use of innovative methodologies.

Keywords: Physiotherapy; Curriculum; Teaching.

RESUMEN

Objetivo: investigar cómo las instituciones de educación superior están construyendo el plan de estudios de sus cursos de Fisioterapia teniendo en cuenta las competencias y habilidades previstas en las Directrices Curriculares Nacionales. **Método:** se realizó una revisión bibliográfica integradora con artículos publicados desde febrero de 2002, en inglés, español o portugués, excluyendo aquellos que no estaban disponibles en su totalidad o que no respondieron la pregunta de investigación. La investigación y la recopilación de datos tuvieron lugar de abril a mayo de 2019 en las bases de datos: LILACS, MEDLINE y CINAHL. Los descriptores utilizados fueron: "Fisioterapia", "currículum" y "enseñanza". **Resultados:** se analizaron y organizaron seis artículos según características comunes, entre ellos, la propuesta curricular y / o el proyecto pedagógico del curso donde se describieron las competencias y habilidades. Encontramos planes de estudio que siguen el modelo tradicional y otros con propuestas innovadoras para el entrenamiento en Fisioterapia. **Conclusión:** las Directrices Curriculares Nacionales. Se utilizaron como modelo general de orientación para la elaboración de proyectos y planes de estudios político-pedagógicos por parte de las Instituciones de Educación Superior en Brasil, presentando elementos sobre las competencias y habilidades de los graduados. La construcción de competencias en estos planes de estudio se basó en la inserción de los estudiantes en prácticas integradas de pasantías curriculares, experiencia en la práctica de la atención médica y el uso de metodologías innovadoras.

Palabras-clave: Fisioterapia; Curriculum; Enseñanza.

INTRODUCTION

In Brazil, Physiotherapy was only established as a higher education profession in 1969 through the publication of Decree-Law 938/69. Prior to this period, the occupation of physiotherapist was of technical level and its function was to perform techniques, prescribed by doctors, in order to rehabilitate injured people¹ and

mutilated mainly in periods such as the Great World Wars. Physiotherapy appears in the country in the late nineteenth century, but it is only in the twenty-first century that concrete changes begin to occur in the formation of physiotherapists in order to adapt it to the new demands and priorities of a constantly changing care model.²

The changes in the Brazilian health system in the last decades, especially after the creation of the Unified Health System (UHS) in 1988, brought new challenges and discussions about the academic formation of health professionals.²

Thus, the contemporary social demands and health needs of the population cannot be met by a rigid vocational training, tied to a curricular matrix focused only on cognitive acquisitions.³ Faced with this challenge, in 2002, the National Curriculum Guidelines (NCG) of undergraduate physiotherapy education emerged, which defined the principles, foundations, conditions and procedures of the training of physiotherapists, with the purpose of serving as a basis for the application, organization, development and evaluation of the Pedagogical Projects (PPC) of Undergraduate Courses in Physiotherapy of Higher Education Institutions (HEI).⁴

The physiotherapist must have a generalist, humanist and critical education, which has a broad and global view: this is the profile defined by the NCG of the undergraduate course in Physical Therapy⁵ Ministry of Health, in 2002. Also according to the NCG, the training of physiotherapists aims to develop general skills and competences that must exceed the limits of technical knowledge. Some of these are communication, leadership, collaborative / team action, decision-making, continuing education and, by establishing general and specific competencies and skills, emphasize training in attitudes toward health, citizenship, community and teamwork.⁶

The term competence can be defined as the acquisition of appropriate skills to perform a task or the ability to decide, using acquired skills and knowledge, to conduct a particular situation.⁷ It can also be described as a complex and articulated combination of skills and abilities, which are the result of a conceptual and functional synthesis of theoretical aspects related to disciplinary content and current experience.⁷

Thus, when discussing the development of these competences, some authors consider that HEIs should provide integral training in order to make students competent to respond to life's problems.⁸

Based on the importance of discussions on skills development in

undergraduate curricula in Physiotherapy courses, this integrative literature review was aimed at investigating how Higher Education Institutions are building the curricular structures of Physiotherapy courses considering the competences and skills provided for in the NCG.

METHOD

An integrative literature review has been performed that has the potential to synthesize the results of research using different types of methods in the same study or different types of studies on the same object and using quantitative or qualitative methods.⁹

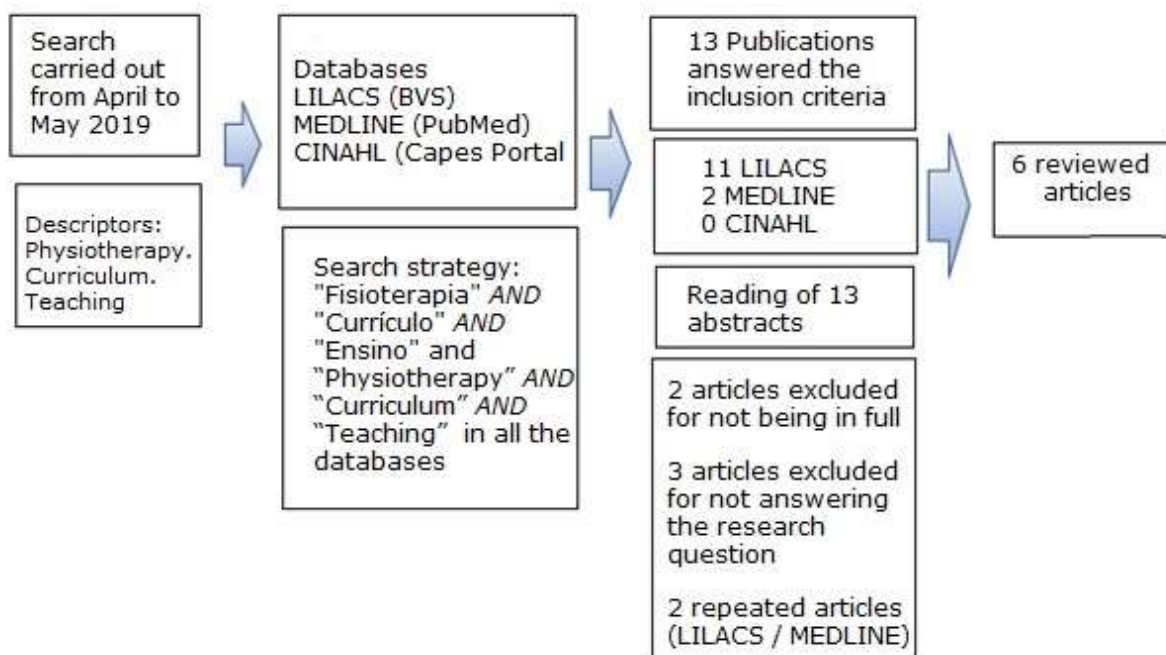
To carry out this review, a research question was elaborated: "How are HEIs building the curriculum of their Physical Therapy courses considering the competencies and skills provided for in the NCG?". The inclusion and exclusion criteria of the articles were defined, and the sample selection and representation of the selected studies in a specific framework were performed, where their common characteristics were considered, such as: place, objective, curriculum proposal or pedagogical project and the activities performed by the HEIs to build the competences and skills needed by the physical therapist.

The following inclusion criteria were defined: articles, dissertations and theses that answered the research question. The articles published from February 2002 (month and year of publication of NCG) to the first half of 2019 articles that were written in Spanish, English or Portuguese were analyzed. Articles that were not found in their entirety or that did not answer the research question were excluded. The descriptors selected were: "Physiotherapy", "Curriculum" and "Teaching". As search strategy, we used the operator Boolean "and" among the chosen descriptors. The descriptors were placed in Portuguese and English. The papers were searched in the LILACS, through the Virtual Health Library (VHL), MEDLINE (through the PubMed portal) and CINAHL (through the Capes journal portal) databases. The research and data collection of articles available online took place from April to May 2019.

There were 13 publications in total, 11 publications in LILACS, two in MEDLINE and none in CINAHL. From this search, two articles were excluded because they were not available in full and three because they did not answer the research question. Two articles were repeated. Thus, six papers were selected, randomly enumerated and stored in the database. The search process for articles

is summarized in figure 1 below.

Figure 1. Article Search Process.



RESULTS AND DISCUSSION

The six articles selected in this search were organized according to the common characteristics and made available in table 1. Information was extracted such as article title, author (s), and place of accomplishment, objective (s), curriculum proposal and / or PPC, as well as the competences and abilities described in these documents.

Chart 1. Characterization of the Articles That Were Part of the Final Sample of This Study and its Division into Categories.

Title of publication	Author(s) Year/FU	Objective(s)	Curriculum proposal / Pedagogical project of the courses	Skills and abilities found
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<p>Competências para formação do fisioterapeuta no âmbito das diretrizes curriculares e promoção da saúde</p>	<p>Borges.¹⁰ 2018. (GO)</p>	<p>Relate the competences advocated by the NCG with the health promotion defined by CompHP * and identify these competences in four pedagogical projects of Physiotherapy courses in Goiânia (GO).</p>	<p>Most curricula follow the traditional training model with the predominance of compartmentalized disciplines with little integration. One of them, however, demonstrated articulation between assessment, functional diagnosis, prevention and rehabilitation from the fifth.</p>	<ul style="list-style-type: none"> - Leadership through leagues or academic centers (cannot cover all students); - Administration and management from specific discipline; - In health care, emphasis on health promotion working in the Physical Therapy internship in the community and public health.
<p>Implementation of a physiotherapy course based on active teaching-learning methodologies</p>	<p>Aguiar, Barbosa, Oliveira, Moccelin, Costa, Silveira.¹¹ 2014. (SE)</p>	<p>Presenting the undergraduate course in Physical Therapy at the Federal University of Sergipe, which has an innovative proposal of teaching-learning methodology, training values and meets the model of care proposed by UHS.</p>	<p>The curricular proposal is divided into cycles of one year each. The first is common for all health courses. Each cycle is divided into practical and theoretical subunits contextualized to professional practice.</p>	<ul style="list-style-type: none"> - Decision making in specific clinical practice. - Health care and communication, in various practice scenarios, also addressing biopsychosocial aspects.
<p>Pedagogical project of the Physiotherapy course at the University of Brasília</p>	<p>Marães, Martins, Cipriano Júnior, Acevedo, Pinho.¹² 2010. (DF)</p>	<p>Present a proposal for a pedagogical project for Physiotherapy course valuing the training focused on human functionality in professional practice scenarios proposed by UHS.</p>	<p>It ensures students contact and experience in content, approaches and practical situations divided into four structuring axes</p>	<p>Competences, in this perspective, are understood and worked as a set of knowledge (knowledges), know-how (practice), know-how (attitudes), know-how (mobilization of all aspects for a more appropriate doing).</p>
<p>A political-pedagogical project of graduation in Physiotherapy based on three curricular axes</p>	<p>Signorelli, Israel, Corrêa, Motter, Takeda, Gomes.¹³ 2010. (PR)</p>	<p>To comment on some of the theoretical bases that support such a political-pedagogical project (PPP) presenting the experience of the collective construction</p>	<p>It is guided by three curricular axes: Theoretical and Practical Foundations (TPF), Learning Projects (LP) and Cultural and Humanistic Interactions (CHI).</p>	<ul style="list-style-type: none"> - Teamwork, decision making, communication, leadership and entrepreneurship. - This strategy also deals with legal and ethical aspects of physiotherapy.

		of a PPP based on three curricular axes.		
The implementation of the competency-based curriculum in undergraduate physiotherapy: integrality as a driving axis	Raymundo, Varjabedian, Guazzelli, Akerman. ¹⁴ 2015. (SP)	Identify the difficulties and facilities of implementing a competency curriculum in the integrality-oriented physiotherapy course.	It is based on competences with three established axes: Hospital Physiotherapy, Ambulatory Physiotherapy and Community Physiotherapy.	- Health care: with a comprehensive look and focusing on care networks.
Adherence of Physiotherapy courses in the Northern region to the National Curriculum Guidelines	Teixeira. ¹⁵ 2009. (Nort region)	Analyze the adherence of the pedagogical projects of the Physiotherapy undergraduate courses in the Northern region to NCG.	It was found in most courses the presence of a curriculum consisting of isolated subjects still based on the model already extinguished by the Ministry of Education and Culture (MEC).	Interdisciplinarity, the integration between theory and practice, comprehensiveness of the training areas during the supervised internship and incentive to scientific production.

The analyzed journals refer to the importance of building a new professional profile after the expanded concept of health with the advent of UHS in the 1980s.

The UHS proposition and the debate about the broader concept of health in the 1980s brought to light the need for a change in the focus of professional education, which is no longer centered on curative and hospital-centered care, but instead addresses the various instances of life production and anchors itself at the intersection of the social sciences and health sciences.^{10:348}

In the last decade, the pedagogical models that support the training of health professionals in the country have changed due to the need to develop skills and abilities to act in accordance with the principles of the UHS.¹⁶

Professional training is seen as an issue in the discussions on the formulation of public policies for health. In the current situation, the concern with training in line with UHS guidelines and principles is based on the need to adapt to changes in demographic and epidemiological profiles in order to meet the real health needs of the population.¹⁷

Thus, NCGs are an important milestone for higher education in Brazil as they seek to align quality vocational training and move towards general skills and competency-based training.¹⁸ NCG and PPC should guide undergraduate Physiotherapy curriculum to graduate and academic profile.⁴

The courses analyzed in the studied articles presented different proposals in their pedagogical projects for the curricular construction; however, they made reference to the NCG in the construction of these.

The use of a "minimum curriculum" is found in current physiotherapy courses in the country, a fact described in the revised article where, in nine pedagogical projects (among the ten analyzed), the presence of a curricular grid consisting of isolated subjects was identified, still based on the minimum curriculum model already extinguished by MEC, and the existence of basic, preclinical and clinical cycles without integration, which makes it difficult for the student to appropriate knowledge.¹⁵

The minimum curriculum adopted defined the courses and static professional profiles differently from the curriculum guidelines that opened the possibility for the HEIs to define different profiles of their graduates and adapt these profiles to the transformations of contemporary sciences and the socio-political-economic needs of society.¹⁹

In NCG, the curriculum of the Physiotherapy undergraduate course may include complementary aspects of profile, skills, competencies and content in order to consider the institutional insertion of the course, the individual flexibility of studies, among others.⁴

An article was found that agreed with the guidelines, through its experience with concrete changes in the pedagogical process of the Physiotherapy course, with the purpose of providing an integral formation articulating teaching, research and extension. In this course, the curriculum structure is formed by five cycles lasting one year each. The first is common for students of eight health courses, which enhances the construction of interdisciplinary experiences.¹¹

Another proposal is to build a competency-based curriculum.¹⁴ The current premise in the health area is guided by competency curricula that imply the insertion of students in professional practice scenarios since the beginning of the course, with educational activities that promote the development of performances.²⁰

The holistic conception of competence represents one of the most relevant features of innovative curricula. This relevance is expressed by the articulation of attributes (cognitive, psychomotor and affective) that, combined, give rise to different ways to successfully perform essential tasks and characteristics of a given professional practice.²¹

It was possible to verify the construction of general competences (health care, decision making, communication, leadership, administration and management, continuing education)⁴ and the specific competences of the physical therapist through the development of various activities that were reported in the curricula found.

The clinical practice in curricular internship, however, was cited^{3,6,14} as a proposal for the formation of professional competences and skills. According to the Federal Law 11.788, of 2008, the internship aims at learning skills proper to professional activity and curriculum contextualization, aiming at the development of the student for the citizen life and for work.²² In addition, trainee assessments should be based on competencies, skills and curriculum content with reference to NCG.²³

The inclusion of the student in health care networks is also used to build competencies in analyzed courses, including communication, decision making, and teamwork.^{11,14}

Building a PPC that incorporates and is based on active teaching methodologies¹¹ It can also facilitate the teaching-learning process, contribute to the formation of skills and achieve the professional profile proposed by NCG with generalist, human, critical and reflective training.⁴ The adoption of innovative methods is due to the recognition of these as strategies that allow the student to use different mental processes such as the ability to hypothesize, compare, analyze, interpret and evaluate and develop skills to take responsibility for their education.¹¹

It is extremely important to approach methodologies for a liberating education practice that allows the health professional to be critical, reflective and able to learn to learn, because graduation lasts only a few years, while professional activity lasts for decades, and skills.²⁴

CONCLUSION

It was possible to verify that the NCG constitute a general model of orientation for the elaboration of the pedagogical projects and curricula by the HEIs in Brazil and that, despite proposing the necessary competences and abilities to the graduates, curriculum contents, internships and complementary activities, curricula that follow the traditional model and others that have innovative proposals for training in physiotherapy were also discovered.

It is noticed that the way of building competences in these curricula was from the insertion of students in integrated practices of curricular internship, the need to increase the experience in the practice of health care, as well as the use of innovative methodologies that can help in the formation of a more critical, reflective and able to learn to learn professional.

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