

# The health of older people in the physical therapy undergraduate program in Brazil: a cross-sectional study

*A saúde do idoso na graduação em fisioterapia no Brasil: um estudo transversal*

*La salud del anciano en el grado en fisioterapia en Brasil: un estudio transversal*

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**ABSTRACT** | Population aging has been occurring rapidly around the world, leading to the need for training for health professionals involved in caring for older adults, including the physical therapist. The aim of this study was to describe the profile of physical therapy courses in higher education institutions (HEIs) in Brazil regarding teaching directed to the health of older adults. This is an observational, cross-sectional study. A survey of information on physical therapy courses in Brazil was carried out through analysis of the curriculum, pedagogical projects and specific form. We analyzed 525 HEIs, of which 91.3% offer a discipline that addresses the health of older people, 98.4% of which is mandatory and 91.3% is the theoretical-practical type. In practice, 25.6% are in the internship field, with 81.9% carried out with older volunteers and 54.9% directed to all levels of care. When analyzing the distribution of the discipline by region, it was observed that it is more present in the Southeast (40.2%) ( $p=0.03$ ). Most HEIs in Brazil address the health of older adults in the curriculum of the physical therapy course. However, the distribution of this discipline in the country is uneven, which can lead to divergences in therapeutic practice and represent losses in the quality of care for older people.

**Keywords** | Aging; Physical Therapy; Teaching.

**RESUMO** | O envelhecimento populacional vem ocorrendo rapidamente em todo o mundo, levando à necessidade de capacitação dos profissionais de saúde envolvidos no cuidado ao idoso, dentre eles o fisioterapeuta. O objetivo deste estudo foi descrever o perfil dos cursos de fisioterapia

de instituições do ensino superior (IES) do Brasil quanto ao ensino direcionado à saúde do idoso. Trata-se de um estudo observacional e transversal. Foi realizado um levantamento de informações sobre os cursos de fisioterapia do Brasil através de análise da grade curricular, projetos pedagógicos e formulário específico. Foram analisadas 525 IES, das quais 91,3% oferecem uma disciplina que aborda a saúde do idoso, sendo 98,4% de caráter obrigatório e 91,3% do tipo teórico-prático. Nas práticas, 25,6% são em campo de estágio, sendo 81,9% realizadas com idosos voluntários e 54,9% direcionadas a todos os níveis de atenção. Ao analisar a distribuição da disciplina por região, observou-se que esta está mais presente na região Sudeste (40,2%) ( $p=0,03$ ). As IES do Brasil abordam, em sua maioria, a saúde do idoso na grade curricular do curso de fisioterapia. No entanto, a distribuição dessa disciplina no país é desigual, podendo trazer divergências na conduta terapêutica e representar prejuízos na qualidade da assistência ao idoso.

**Descritores** | Envelhecimento; Fisioterapia; Ensino.

**RESUMEN** | El envejecimiento de la población ha estado ocurriendo rápidamente en el mundo, lo que resulta necesaria la capacitación de los profesionales de la salud involucrados en el cuidado del anciano, incluido el fisioterapeuta. El presente estudio tuvo el objetivo de describir el perfil de los cursos de fisioterapia en las instituciones de educación superior (IES) en Brasil con respecto a la enseñanza sobre la salud del anciano. Es un estudio observacional y transversal. Se realizó una recopilación de informaciones sobre los cursos

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de fisioterapia en Brasil mediante el análisis del plan de estudios, los proyectos pedagógicos y un formulario específico. Se analizaron 525 IES, de las cuales el 91,3% ofertan una materia que aborda la salud del anciano, de esta, el 98,4% son obligatorias y el 91,3% del tipo teórico-prácticas. En las del tipo prácticas, el 25,6% están en el ámbito de pasantías, siendo que el 81,9% se realizan con ancianos voluntarios y el 54,9% están dirigidas a todos los niveles de atención. En el análisis de la distribución de la materia por región, se observó una

mayor presencia en la región Sudeste (40,2%) ( $p=0,03$ ). La mayoría de las IES en Brasil abordan la salud de los ancianos en el plan de estudios del curso de fisioterapia. No obstante, la distribución de la materia es desigual en el país, lo que puede resultar en divergencias en la conducta terapéutica e influir negativamente en la calidad de la asistencia a los ancianos.

**Palabras clave** | Envejecimiento; Fisioterapia; Enseñanza.

## INTRODUCTION

Population aging is an accelerated phenomenon worldwide<sup>1</sup>. In Brazil, projections indicate that, between 2000 and 2020, the absolute number of older people will double, and by 2030, it will surpass that of children and adolescents<sup>2</sup>. Associated with this, there is a change in the epidemiological profile, with a progressive increase in chronic-degenerative diseases, a predominance of functional disabilities and an overload of public spending on health<sup>3</sup>.

Considering all dimensions of older adults' health and the multiplicity of the individual, the multiprofessional approach to health is the most appropriate<sup>1,4</sup>. It is necessary to evaluate not only aspects related to the body structure and function, but also the possible limitations in activities and restrictions on social participation, observing the contextual, personal and environmental factors involved<sup>5</sup>. However, it appears that although there are policies that support comprehensive care for the older people, embargoes regarding its practical application persist, as well as a lack of training for professionals.

The Brazilian Society of Geriatrics and Gerontology (SBGG) highlights the existence of several barriers to comprehensive care for older adults within the scope of the Unified Health System (SUS)<sup>6</sup>. Examples are the poor physical structure available, the difficulty in accessing diagnostic tests, the lack of human resources and training for professionals, which would lead to less effective assistance and worse health conditions for older people assisted<sup>6</sup>.

The World Health Organization (WHO) emphasizes the need for training professionals involved in caring for older adults as a strategy to ensure adequate assistance<sup>1</sup>. Among these professionals, we highlight the physical therapist, who acts on different organs and body systems, with the aim of preventing and treating functional kinetic

disorders, promoting better functionality<sup>7</sup>. In this sense, the American Physical Therapy Association (APTA) recognizes the physical therapist as essential in caring for older people, working at different levels of healthcare and promoting improvements in their health conditions, which allows for a better quality of life<sup>8</sup>.

However, there are no studies that address the current situation of physical therapists trained in higher education institutions (HEIs) in Brazil, regarding the health of older adults. Considering the specificities of healthcare for older people, as well as the growing demand in this area, the role of the physical therapist in this scenario requires solid training. Thus, this study aims to describe the profile of physical therapy courses at higher education institutions in Brazil regarding teaching directed to the health of the older population.

## METHODOLOGY

This is an observational, cross-sectional study carried out from February 2017 to February 2018, whose participants were Brazilian HEIs registered with the Ministry of Education (MEC) that offer the undergraduate course in physical therapy.

### Procedures

Initially, a search was made on MEC's website to survey the physical therapy courses operating in the country. All courses from public and private higher education institutions were included, without differentiating between universities, colleges, university centers and others, that were registered with the MEC and that had publicly available information about their curriculum or responded to an electronic form

about it. Then, a search was made on the e-mail addresses of these courses in order to obtain the pedagogical project (PP), or the curriculum, and the e-mail address. In cases when we could not obtain the e-mail via website, three attempts were made by telephone to request it.

After obtaining the e-mail addresses, a link was sent to remotely access a digital form that should be answered by the coordinators. This stage of the study aimed to confirm the data obtained from the collection of the PP and curriculum, avoiding possible information errors. For cases of divergence of information, a second contact was made via e-mail. When this contact was not successful, the response obtained by the electronic form was considered. We excluded from the analysis the courses in which we could not have any virtual contact, that did not have any physical therapy class in progress or who did not respond to attempts at contact and did not have PP and/or curriculum available at electronic addresses.

As for data collection, information was obtained about the existence of a specific discipline of the physical therapy approach in older adults, or that presents content directed to their health, as well as the existence of an extension project and/or graduate program in this area. In case of having this kind of discipline, the coordinators were asked about the requirement, workload, annual vacancies offered, existence of practical activities and their nature (laboratory and/or internship field, internship location, health care level), in addition to the specificity of the discipline. It was also inquired as to the maximum degree of the discipline's professors. The information collected is in the public domain. Ethical criteria were observed throughout the research.

The information obtained was classified according to the characteristics of the discipline, for a better presentation of the data, as described below: general, for all disciplines that address the health of older adults, which may include other stages of the life cycle; specific 1, for all disciplines that present content exclusively focused on the health of older adults; specific 2, for all the specific disciplines of physical therapy approach in older adults.

**Statistical analysis**

Data analysis was performed using the Statistical Package for Social Sciences (SPSS) software, version 20.0. In the descriptive analysis, mean and standard deviation were used for quantitative variables, and absolute and relative frequencies for categorical variables. The chi-square test was used in the bivariate analysis to verify the relation between the presence of older adults health discipline and the regions of Brazil. The significance level assumed for all tests was 5%.

**RESULTS**

The search on the e-MEC portal obtained a total of 684 HEIs with active registration for the physical therapy course, of which 42 (6.1%) were not found or did not have, on their websites, e-mail or telephone contacts. After successive attempts at contact, information was obtained on 525 (76.7%) courses, either by electronic form or PP. The summary of the contact procedures with their respective results is shown in Figure 1.

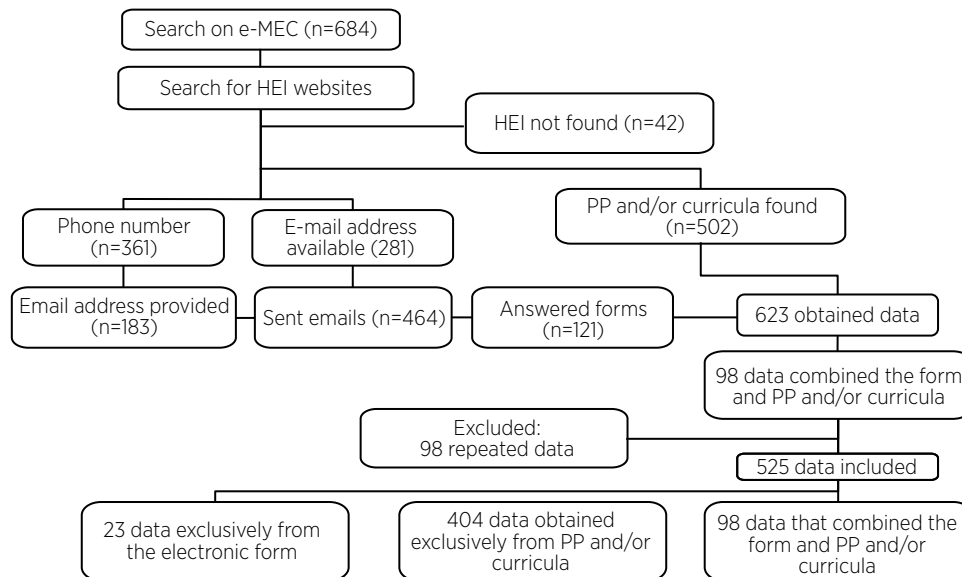


Figure 1. Sequence of events of the sample selection, considering inclusion and exclusion criteria e-MEC: electronic portal of the Ministry of Education; HEI: higher education institution; PP: pedagogical project.

In the distribution of courses by region, 4 (0.8%) courses were excluded from the analysis due to the impossibility of identifying their location. Of the 521 physical therapy courses included, there was a predominance of courses in the state of São Paulo (25.9%). The only state with no functioning physical therapy course was Roraima. As for the region, there was a higher prevalence in the Southeast (39.9%) and lower in the North (5%).

Of the 525 courses analyzed, 475 (90.5%) belong to private educational institutions, 523 (99.6%) are offered in person and 494 (94.1%) offer disciplines that address the health of older adults (general). Regarding the specificity of the discipline in terms of gerontology, we obtained information on 458 courses, of which 418 (91.3%) offer disciplines focused exclusively on the health of older people (specific 1). Of these,

309 had data regarding the direction of the discipline, whether specific to physical therapy care (specific 2) or not, with 282 (91.3%) being considered specific to physical therapy (specific 2).

When analyzing the characteristics of the disciplines that address this topic, it is noted that the majority is mandatory (98.4%), of the theoretical-practical type (91.3%). There was a predominance of the title of master (51.6%) as the highest degree among professors who teach the course. The average course load was 84.5 ( $\pm 85.3$ ) hours, offering 72.7 ( $\pm 40.1$ ) annual vacancies (Table 1).

When the characteristics of the reported practical activities were verified, less than 30% of the disciplines have practices in internship fields, where the student has contact with older adults (81.9%) and experiences the three levels of healthcare (54.9%) (Table 2).

Table 1. Characterization of the disciplines that address health of older adults in physical therapy courses in Brazil

Discipline characteristics	General <sup>a</sup> (n=494)	Specific 1 <sup>b</sup> (n=418)	Specific 2 <sup>c</sup> (n=282)
Mandatory discipline (n)	494*	418*	282*
Yes (%)	486 (98.4%)	413 (98.8%)	278 (98.6%)
Type of discipline (n)	173*	150*	111*
Theory (%)	14 (8.1%)	12 (8%)	8 (7.2%)
Practice (%)	1 (0.6%)	1 (0.7%)	1 (0.9%)
Theoretical-practical (%)	158 (91.3%)	137 (91.3%)	102 (91.9%)
Maximum degree among professors (n)	126*	108*	84*
Specialist (%)	11 (8.7%)	10 (9.3%)	8 (9.5%)
Master (%)	65 (51.6%)	56 (51.9%)	42 (50%)
Ph.D. (%)	46 (36.5%)	39 (36.1%)	32 (38.1%)
Post Doctorate (%)	4 (3.2%)	3 (2.8%)	2 (2.4%)
Annual vacancies (n)	112*	309*	282*
Number of vacancies (mean $\pm$ SD)	72.7 ( $\pm 40.1$ )	72.9 ( $\pm 39.8$ )	69 ( $\pm 36.6$ )
Workload (n)	441*	309*	282*
Hours (mean $\pm$ SD)	84.5 ( $\pm 85.3$ )	79.8 ( $\pm 44$ )	79.8 ( $\pm 49.3$ )

\*Sample obtained by category (valid n); <sup>a</sup>Disciplines that address the health of older adults, which may include other stages of the life cycle. <sup>b</sup>Disciplines with content exclusively focused on the health of older adults. <sup>c</sup>Specific 2: specific disciplines of physical therapy approach in older adults. SD: standard deviation.

Table 2. Characterization of older adults health disciplines that carry out a practical approach

Discipline characteristics	General <sup>a</sup> (n=159)	Specific 1 <sup>b</sup> (n=138)	Specific 2 <sup>c</sup> (n=103)
Location of practical activity* (n)	121*	105*	83*
Laboratory (%)	17 (14%)	13 (12.4%)	11 (13.3%)
Curricular Internship (%)	31 (25.6%)	31 (29.5%)	23 (27.7%)
Both (%)	73 (60.3%)	61 (58.1%)	49 (59%)
Activity volunteers* (n)	116*	101*	79*
Students (%)	21 (18.1%)	15 (14.9%)	15 (19%)
Older adults (%)	95 (81.9%)	86 (85.1%)	64 (81%)
Health care level* (n)	113*	98*	75*
Primary (%)	9 (8%)	9 (9.2%)	9 (12%)
Secondary (%)	7 (6.2%)	5 (5.1%)	3(4%)
Tertiary (%)	2 (1.8%)	2 (2%)	1 (1.3%)
Levels of healthcare (%)	33 (29.2%)	31 (31.6%)	24 (31.9%)
All Levels (%)	62 (54.9%)	51 (52%)	38 (50.7%)

\*Sample obtained by category (valid n); <sup>a</sup>Disciplines that address the health of older adults, which may include other stages of the life cycle. <sup>b</sup>Disciplines with content exclusively focused on the health of older adults. <sup>c</sup>Specific 2: specific disciplines of physical therapy approach in older adults.

As for the existence of an extension project, information was obtained from 291 courses, of which 75 (25.8%) offer projects aimed at the care of older adults; 401 courses offered data on graduate programs, of which 68 (17%) have programs aimed at the health of older adults.

When analyzing the association between the presence of the discipline that addresses the health of older adults (general), specific 1 and specific 2 with the regions where the course is offered, a significant association was observed between the presence of the discipline that addresses the health of older adults (general) and the Southeast region ( $p=0.03$ ) (Figure 2).

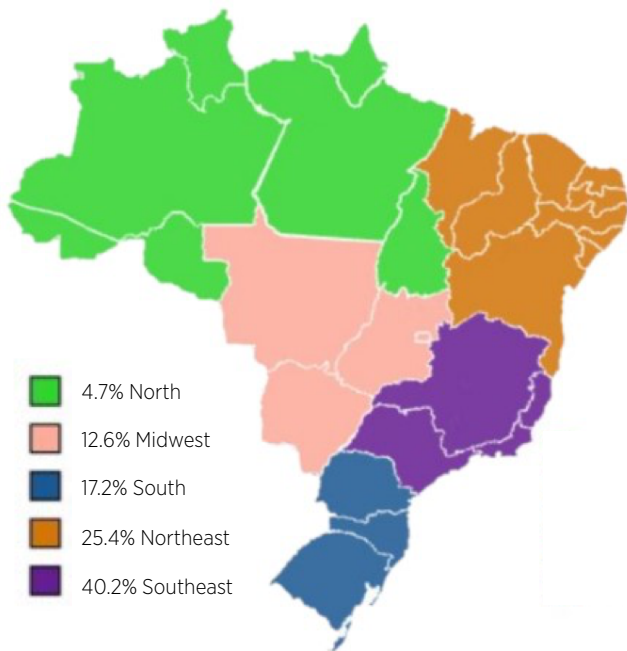


Figure 2. Distribution by region of disciplines that address the health of older adults in physical therapy courses in Brazil

## DISCUSSION

The aim of our study was to describe the profile of physical therapy courses in Brazil regarding teaching directed to the health of the older population. We found that most physical therapy courses address the health of older people in at least one discipline, but only part of the students have specific content for physical therapy care for older adults. Student access to content is ensured, as in most cases this discipline is mandatory. Despite having a theoretical-practical character, at the three levels of care, and being taught mainly by professors with a master's degree, most students do not have access to the real practical environment of care for older adults, which

will possibly hinder the future practice of this professional with that population.

The large number of physical therapy courses in Brazil increases the challenge of analyzing how these professionals are being prepared to deal with the aging process. The National Policy for Older Adults provides for the need to adapt the curriculum to the demographic transition in Brazil<sup>9</sup>. In this context, most Brazilian physical therapy courses have a discipline that includes the health of older people in their curriculum, which is mainly mandatory. There is a concern of the courses to follow the guidelines, also reinforced by the WHO, which emphasize the need to include themes in the curricula of all health courses directed to the health of the older population<sup>1</sup>. This panorama contributes to the training of physical therapists as general practitioners, as recommended by the National Curricular Guidelines for the Physical Therapy Course<sup>10</sup>.

However, this generalist formation is not uniform in the national territory, with a predominance in the Southeast region. Thus, the physical therapy student is submitted to different types of training, which may represent divergences in professional performance and deficiencies in the care received by older people in certain regions of the country. Therefore, the importance of standardizing the training of physical therapists is clear, in addition to the need for continuing education, aiming at complete training to deal with this population.

From didactic strategies to enhance learning, the insertion of new scenarios, which fit new content and practical activities, can redirect the perspective on health interventions<sup>11</sup>. Most physical therapy courses carry out practical activities added to the health of older people disciplines. Oh, Lee and Kim<sup>12</sup> point out that the practice stimulates students with skills related to communication, problem-solving and interpersonal relationships, which would stimulate the development of essential skills for the future profession. Despite these positive data, we observed that most students do not have the opportunity to experience the practice with older people, limiting the practical experience itself. Such opportunities are spaces for the expression of conflicts and choices, where content is faced with individuality and ethics, favoring the articulation between theory and practice<sup>11</sup>.

In this context, the participation of students in the daily life of services allows responsible living in reality. Clinical practice based on the three levels of care favors the expansion of this scenario, guiding learning in problem-solving<sup>11</sup>. However, an important part of the



health practices of older adults does not include all levels of care. Evidence shows the need to ensure training that addresses the most different levels of health care, ensuring compliance with the National Curricular Guidelines for Undergraduate Physical Therapy Courses<sup>3,10,13,14</sup>. In the context of aging, such aspects become more relevant as the importance of prevention and health promotion for older adults is emphasized.

Miranda, Mendes and Silva<sup>3</sup> highlight that the investment in the training of health professionals to work in gerontology is important to ensure good professional practices. However, our results point to a small number of graduate courses in the area of aging at universities, which would make it difficult for professionals to access the process of continuing education and research. According to WHO, continuing education is essential for guaranteeing good practices, improving available treatments and updating existing guidelines.

Our research limitation is the search for data from pedagogical projects and curricular programs available online, which may not be up to date. However, as an adjustment strategy, the data were confirmed through a specific questionnaire. In addition, there are no studies on the current training situation of physical therapists who have been trained in higher education institutions in Brazil with regard to the health of older people. The relevance of this study gains greater proportion considering Brazil's huge geographic area, with very divergent regions that present a large number of physical therapy courses.

Given the above, we note the inclusion of health of older adults in the curricula of physical therapy courses in the country. However, this inclusion is not yet universal, which indicates that part of the graduated physical therapists may not have sufficient skills to deal with the older population in constant growth. In addition, there is a gap in continuing education, represented here by graduate students, limiting the production of knowledge. Finally, we suggest studies that investigate the quality of the content related to the health of older people taught in these courses, which may provide more details on the training of the physical therapist, allowing for a more in-depth analysis.

## CONCLUSION

Most undergraduate courses of physical therapy at institutions of higher education in Brazil address the health of older people in the curriculum. The insertion of mandatory

disciplines, of a theoretical-practical nature, addressing the three levels of care, with practical activities that include the care of older people, are signs of the intention of these institutions to adapt the training of the physical therapist to the demographic transition. However, the distribution of courses and disciplines in the country is uneven, which can lead to divergences in therapeutic performance. Knowing the profile of the professional that being trained is an essential factor for the quality of patient care.

## REFERENCES

1. World Health Organization. Multisectoral action for a life course approach to healthy ageing: draft global strategy and plan of action on ageing and health [Internet]. 2016 [cited 2020 Feb 18]. Available from: [https://apps.who.int/iris/bitstream/handle/10665/252671/A69\\_17-en.pdf?sequence=1&isAllowed=y](https://apps.who.int/iris/bitstream/handle/10665/252671/A69_17-en.pdf?sequence=1&isAllowed=y)
2. IBGE – Instituto Brasileiro de Geografia e Estatística. Indicadores sociodemográficos e de saúde no Brasil [Internet]. 2009 [cited 2020 Feb 18]. Available from: <https://biblioteca.ibge.gov.br/visualizacao/livros/liv42597.pdf>
3. Miranda GMD, Mendes ACG, Silva ALA. O envelhecimento populacional brasileiro: desafios e consequências sociais atuais e futuras. *Rev Bras Geriatr Gerontol*. 2016;19(3):507-19. doi: 10.1590/1809-98232016019.150140
4. Briggs AM, Valentijn PP, Thiyagarajan JA, Carvalho IA. Elements of integrated care approaches for older people: a review of reviews. *BMJ Open*. 2018;8(4):e021194. doi: 10.1136/bmjopen-2017-021194
5. Organização Mundial da Saúde. CIF: Classificação internacional de funcionalidade, incapacidade e saúde. São Paulo: Edusp; 2003.
6. Neto JBF. Carta aberta à população brasileira [Internet]. 2014 [cited 2020 Feb 18]. Available from: <https://sbgg.org.br/wp-content/uploads/2014/12/R19.pdf>
7. COFFITO – Conselho Federal de Fisioterapia e Terapia Ocupacional. Resolução nº 10, 3 de julho de 1978. Aprova o Código de Ética Profissional de Fisioterapia e Terapia Ocupacional. *Diário Oficial da União* [Internet]. 1978 Sept 22 [cited 2020 Feb 18];1:5265-68. Available from: <https://www.coffito.gov.br/nsite/?p=2767>
8. Wong R, Avers D, Barr J, Ciolek C, Klima D, Thompson M. Essential competencies in the care of older adults at the completion of the entry-level physical therapist professional program of study. *Acad Geriatr Phys Ther*. 2014. Available from: <https://geriatricspt.org/pdfs/AGPT-PT-Essential-Competencies.pdf>
9. Brasil. Lei nº 8.842, de 4 de janeiro de 1994. Dispõe sobre a Política Nacional do Idoso, cria o Conselho Nacional do Idoso e dá outras providências. *Diário Oficial da União* [Internet]. 1994 Jan 5 [cited 2020 Feb 18];77. Available from: [http://www.planalto.gov.br/ccivil\\_03/leis/L8842.htm](http://www.planalto.gov.br/ccivil_03/leis/L8842.htm)
10. Brasil. Ministério da Educação. Resolução CNE/CES 4, de 19 de fevereiro de 2002. Diretrizes Curriculares Nacionais do Curso de Graduação em Fisioterapia. *Diário Oficial*

- da União [Internet]. 2002 Mar 4 [cited 2020 Feb 18];1:11. Available from: <http://portal.mec.gov.br/cne/arquivos/pdf/CES042002.pdf>
11. Motta LB, Aguiar AC. Novas competências profissionais em saúde e o envelhecimento populacional brasileiro: integralidade, interdisciplinaridade e intersetorialidade. *Cienc Saúde Coletiva*. 2007;12(2):363-72. doi: 10.1590/S1413-81232007000200012
  12. Oh TY, Lee KS, Kim BJ. Suggestions for a standard clinical practice curriculum and learning objectives for physical therapy education in Korea. *J Educ Eval Health Profes*. 2017;14(23):1-4. doi: 10.3352/jeehp.2017.14.23
  13. Bispo Júnior JP. Formação em fisioterapia no Brasil: reflexões sobre a expansão do ensino e os modelos de formação. *Hist Cienc Saúde*. 2009;16(3):655-68. doi: 10.1590/S0104-59702009000300005
  14. Gonçalves FG, Carvalho BG, Trelha CS. O ensino da saúde coletiva na Universidade Estadual de Londrina: da análise documental à percepção dos estudantes. *Trab Educ Saúde*. 2012;10(2):301-14. doi: 10.1590/S1981-77462012000200007