



Overview of physical therapy graduation courses in Brazil: current scenario

Panorama dos cursos de graduação em fisioterapia no Brasil: realidade atual

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Abstract

Introduction: After the regulation of Physical Therapy (PT) in 1969, there were only six undergraduate courses in Brazil. In the 90s, higher education underwent major expansion in all professions and the same occurred to PT, with consequent increase in the number of professionals in the labor market and privatization of education. **Objective:** To describe the current situation of PT courses in Brazil offered by Higher Education Institutions (IES). **Methods:** The data for the region, academic organization, situation, period, school system, administrative category, vacancies, course hours and duration were obtained from the website of the Ministry of Education (MEC) and refer to the year of 2013. The descriptive analyzes of central tendency, dispersion and percentage were performed in Stata 9[®]. **Results:** From the total of 550 IES registered in the MEC, 281 (51%) were in the Southeast. Regarding the academic organization, 341 (62%) corresponded to universities and 483 (87.9%) of the IES were private. Of the courses, 521 (94.7%) are active, the predominant school system was the semiannual (91.5%) and 438 were part-time. The average vacancies authorized by the IES were 129 ± 102 , with at least 44,900 vacancies available in the country. Of the courses, 75% had 4,000 hours of duration with the minimum of seven semesters and a maximum of

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fourteen. **Conclusion:** The data show a higher offer of PT courses in the private sector compared to the public. There was a progressive concentration of courses and vacancies in the Southeast, especially in São Paulo.

Keywords: Higher Education. Physical Therapy Specialty. Human Resources Formation.

Resumo

Introdução: Após a regulamentação da Fisioterapia em 1969, existiam apenas seis cursos de graduação no país. Na década de 90, o ensino superior passou por grande expansão em todas as profissões e o mesmo ocorreu com a Fisioterapia e conseqüentemente o aumento do número de profissionais para o mercado de trabalho e privatização do ensino. **Objetivo:** descrever o panorama atual dos cursos de Fisioterapia no Brasil oferecidos pelas Instituições de Educação Superior (IES). **Métodos:** Os dados referentes à região, organização acadêmica, situação funcional, turno, regime letivo, categoria administrativa, vagas, carga horária e tempo de curso foram obtidos no portal do Ministério da Educação (MEC) e referem-se ao ano 2013. As análises descritivas de tendência central, dispersão e porcentagem foram realizadas no Stata 9[®]. **Resultados:** Do total de 550 IES cadastradas no MEC, 281 (51%) estavam na região Sudeste. Em relação à organização acadêmica, 341 (62%) correspondiam a Universidades, 483 (87,9%) das IES eram privadas. Estão em atividade 521 (94,7%) dos cursos, o regime letivo predominante foi o semestral (91,5%) e o turno de meio período estava presente em 438 IES. A média de vagas autorizadas por IES foi de 129±102, sendo disponíveis pelo menos 44.900 vagas no país. Dos cursos 75% tinham carga horária de 4.000 e com o mínimo de sete semestres e máximo de catorze. **Conclusão:** Os dados mostram a maior oferta de cursos em Fisioterapia no setor privado. Houve progressiva concentração de cursos e vagas na região sudeste, principalmente, no estado de São Paulo.

Palavras-chave: Educação Superior. Fisioterapia. Formação de Recursos Humanos.

Introduction

Physical Therapy (PT) in Brazil began in the middle of 1919, when the Medical Electricity Department was founded at the School of Medicine of the University of Sao Paulo. In 1951, the first PT course started in the Central Institute of the Hospital das Clínicas of the School of Medicine of the University of Sao Paulo, with the aim of training PT technicians. At the time, Physical Therapy was seen as a practice in the rehabilitation process of disabling conditions, especially as a consequence of historical moments as the Industrial Revolution and the World Wars (1 - 5).

The regulation of Physical Therapy as a higher-level course occurred in October 1969 (Decree-Law 938) and there were only six undergraduate courses in Brazil. Decree-Law 938 defined PT as a higher-level profession, and the physical therapist must apply "physiotherapeutic methods and techniques with the purpose of restoring, developing and

maintaining the physical capacity of the client" (6, 7). In the 90s, there was an expansion in vocational training of higher education in all professions and the same happened with PT, with the multiplication of schools and the number of vacancies (2, 4, 7, 8).

In the process of construction and implementation of the Brazilian Health System, Brazilian physical therapists, as well as other health professionals, faced new demands that called for them to expand the focus of intervention, to produce disease prevention and health promotion. In order to achieve this objective, it was necessary to rethink and reformulate the education of Brazilian health professionals (9, 10).

In this sense, in 2001, the Ministry of Education and Culture (MEC) presented the National Curricular Directives for undergraduate courses in the health area and stated the need to consider the principles and guidelines of Brazilian Health System. Then, the undergraduate courses in the health area launched their specific Curricular Directives, revising their projects of academic formation (9, 11, 12).

In the PT courses, the National Curricular Directives redirected the professional education, which, associated with the construction of the Brazilian Health System, increased the offer of services, programs and health actions, especially in Primary Health Care. This changed the paradigm of education of the physical therapist, before it was directed to the specialist in physiotherapeutic techniques, for cure and/or rehabilitation. Nowadays, the physical therapist acts through broader contents with technical-scientific, generalist and humanistic competence, able to act at all levels of health care (7, 9, 13, 14).

However, the saturation of the traditional model of academic education, the need of a new professional profile for the Brazilian Health System and the change in approach to the health-disease process, prioritizing the functionality, stimulated the development of new pedagogical projects for the teaching of Physical Therapy (4). Along with this context, the number of PT courses in Brazil is increasing, and there is currently no systematized knowledge of the scenario of the educational establishments in PT.

Considering the growth of Physical Therapy courses and the privatization of education, it is important to know the current overview of the teaching of this profession in Brazil. This study aimed to describe the current overview of PT courses in Brazil offered by Higher Education Institutions.

Methods

This is a descriptive research. Data were obtained from the Register of Institutions of Higher Education and Courses of 2013, available on the website of the Ministry of Education and by e-MEC, which follows up the processes that regulate higher education in Brazil, exempted from the need to be submitted to the Ethics Committee. Through the Internet, the Higher Education Institutions are able to do the accreditation and re-accreditation of the courses, as well as seek for authorization, recognition and renewal of recognition of their courses (15).

The Brazilian regions considered were North, South, Southeast, Northeast and Midwest and the academic organization was divided into universities / university centers and colleges. The considered situation of the courses in 2013 were: to be in

activity, extinct or did not start. The mapped shifts were: morning, evening, night and full time; the school regimen, as semiannual or annual, and the administrative category, as private, federal public, state public and municipal public. We obtained the number of students accepted by each of the Higher Education Institutions, the number of hours of each course and the length of time the courses have existed for. The data were tabulated in Microsoft Excel® and statistically analyzed with percentages and descriptive analysis of central tendency and dispersion by the statistical program Stata 9®.

Results

Of the 550 Higher Education Institutions registered in the Ministry of Education, the Physical Therapy courses in the country are geographically concentrated in the Southeast region and, to a lesser extent, in the North. The relationship between the Brazilian population and Higher Education Institutions is directly proportional in the Brazilian regions (Table 1). The states with the higher number of Higher Education Institutions are: Sao Paulo 155 (28.18%), Minas Gerais 68 (12.36%) and Rio de Janeiro 48 (8.73%).

Table 1 - Distribution and percentage of Higher Education Institutions by geographic region

Region	n (%)	Population (%)
Southeast	281 (51)	80.364.410 (42)
Northeast	107 (20)	53.081.950 (28)
South	85 (16)	27.386.891 (15)
Midwest	46 (8)	14.058.094 (7)
North	31 (5)	15.864.454 (8)
Brazil	550 (100)	190.732.694 (100)

Note: Source: Brazilian Institute of Geography and Statistics, 2010 (16).

The majority of the Higher Education Institutions are active (94.73%) and the courses are offered in several different shift compositions between morning, afternoon and night, being most of them offered in just one period, morning or night. Only 20.22% of Higher Education Institutions offer full-time courses (Table 2).

Table 2 - Distribution and percentage of Higher Education Institutions according to institutional characteristics

Institutional Characteristics	n (%)
Situation	
Course in activity	521 (95)
Extinct	22 (4)
Not started	03 (1)
Shift	
Morning / Night	164 (30)
Night	139 (26)
Full-time	111 (20)
Morning	95 (17)
Morning / Evening	14 (3)
Evening	10 (2)
Morning / Evening / Night	07 (1)
Full-time / Night	07 (1)
Evening / Night	02 (0)
School Regimen	
Semiannual	503 (92)
Annual	44 (8)
Annual / Semiannual	01 (0)
Total	550 (100)

Note: Source: Register of Institutions of Higher Education and Courses, 2013 (15).

Table 3 shows the institutional characteristics of the Higher Education Institutions related to the Brazilian regions and indicates that the distribution between universities/university centers (341 Institutions) and colleges (209 Institutions) is relatively proportional in the country, but in the North, Southeast and South regions there is a greater concentration of universities/university centers and in the Midwest and Northeast regions, colleges.

Concerning the administrative category, private institutions prevail in all regions, totaling 483 units, of which 259 are in the Southeast region. When public institutions are analyzed, it is observed that the proportion of federal schools is higher in all regions.

The average number of available vacancies in the courses is 129.07 ± 102.35 , but the values vary from 25 to 820 and the total offer in the country is around 44,900 vacancies. The Southeast region presented a considerable increase in the maximum number and only one Higher Education Institution has 820 vacancies.

Table 3 - Distribution and percentage of Higher Education Institutions characteristics according to the Brazilian region.

Characteristics Institutional	Brazilian Region					Total n
	Midwest n (%)	Northeast n (%)	North n (%)	Southeast n (%)	South n (%)	
Academic Organization						
University Centers / Universities	22 (4.0)	37 (6.8)	16 (2.9)	207 (37.6)	59 (10.7)	341
Colleges	24 (4.4)	70 (12.7)	15 (2.7)	74 (13.5)	26 (4.7)	209
Administrative Category						
Federal Public	3 (0.5)	9 (1.6)	3 (0.5)	10 (1.8)	7 (1.3)	32
State Public	2 (0.4)	6 (1.1)	2 (0.4)	5 (0.9)	5 (0.9)	20
Municipal Public	3 (0.5)	0 (0.0)	1 (0.2)	7 (1.3)	4 (0.7)	15
Private	38 (6.9)	92 (16.7)	25 (4.5)	259 (47.1)	69 (12.5)	483
Total	46 (8.4)	107 (19.5)	31 (5.6)	281 (51.1)	85 (15.4)	550

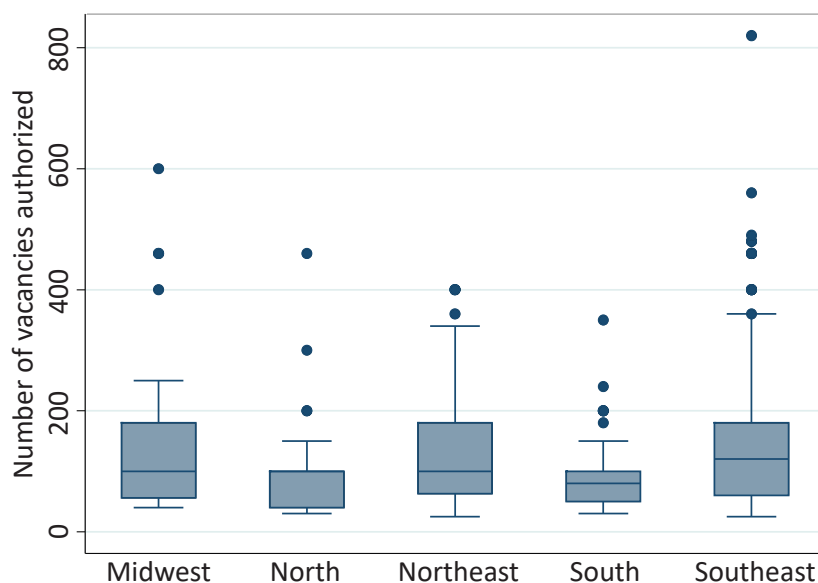
Note: Source: Register of Institutions of Higher Education and Courses, 2013 (15).

The most prevalent school regimen is the semiannual and in 50% of them, the courses are completed in 9 semesters, the shortest being 7 and the longest 14 semesters. The longest course load was 8,192 and the shortest 2,208 hours – well below the minimum load proposed by Ministry of Education in 2009. Seventy-five percent of the courses had a workload of 4,000 hours or more (not specified in e-MEC) (Figure 1).

The part-time shifts are more concentrated in the private institutions, as shown in Table 4. Regardless of the academic organization, there are more Universities/University Centers than Colleges. About

vacancies, the federal and state institutions are centralized between 1 and 50 vacancies; in the municipal institutions between 51 and 100; in the private ones between 51 and 100 and in some institutions there are more than 151 vacancies.

Most of the available courses are recent and the oldest courses (16 to 54 years) are in the public state administrative category. The most recent courses have belonged to federal institutions for up to five years and private ones from six to ten years. The length of time the courses have existed for is on average 10.13 ± 7.99 years.



Note: Source: Register of Institutions of Higher Education and Courses, 2013 (15).

Figure 1 - Number of vacancies authorized by the Ministry of Education by Brazilian region.

Table 4 - Distribution and percentage of Higher Education Institutions characteristics according to the administrative category

Institutions characteristics	Administrative Category				
	Federal Public	State Public	Municipal Public	Private	Total
	n (%)	n (%)	n (%)	n (%)	n
Shift *					
Full-time	29 (5.3)	14 (2.6)	4 (0.7)	64 (11.7)	111
Part-Time	3 (0.5)	6 (1.1)	11 (2.0)	418 (76.1)	438
Academic Organization					
University Centers / Universities	32 (5.8)	19 (3.5)	9 (1.7)	281 (51.1)	341
Colleges	0 (0.0)	1 (0.2)	6 (1.1)	202 (36.7)	209
Vacancies					
1 to 50	20 (3.7)	14 (2.6)	3 (0.5)	88 (16.1)	125
51 to 100	12 (2.2)	6 (1.1)	9 (1.6)	164 (30.0)	191
101 to 150	0 (0.0)	0 (0.0)	2 (0.4)	94 (17.2)	96
More than 151	0 (0.0)	0 (0.0)	1 (0.2)	133 (24.4)	134
Course Time (Years)					
0 to 5	20 (3.7)	2 (0.4)	4 (0.7)	128 (23.5)	154
6 to 10	4 (0.7)	4 (0.7)	0 (0.0)	182 (33.4)	190
11 to 15	0 (0.0)	6 (1.1)	9 (1.7)	118 (21.7)	133
16 to 54	8 (1.5)	8 (1.5)	2 (0.4)	50 (9.2)	68
Total	32 (5.8)	20 (3.6)	15 (2.7)	483 (87.8)	550

Note: Source: Register of Institutions of Higher Education and Courses, 2013 (15).

Discussion

The great offer of undergraduate Physical Therapy courses in Brazil is concentrated in the Southeast region, in the private sector with a high number of available vacancies in part-time shifts with growth in the last 10 years. In 1998 there were 115 PT courses, with a recommendation of availability of 50 vacancies per course. After this period there was an exponential increase in the opening of new undergraduate courses and available vacancies, mainly until 2008, with 500 courses in activity in the country (15).

According to Almeida (10) and Pereira (17) in 1995 there were 6,098 vacancies in Physical Therapy courses in Brazil and in 2013 this number reached 45,152, representing a growth of 640.4%; that is, the total of vacancies offered exceeded the total number of students who actually enrolled in the courses (31,322 in 2003). Therefore, 13,830 vacancies were not filled. After 10 years, the estimated number of vacancies available in Higher Education Institutions was kept, as shown by the results of the present study, what may represent a possible stability.

The CNE/CES resolution n. 4/2009 (18, 19) establishes that the minimum load for PT courses is 4,000 hours and the minimum time to complete the course is five years. With the support of the legislation, the limits for completing the courses are fixed based on the total number of hours. Courses of three to four years may correspond to a load of between 2,400 and 4,000 hours, and full-time courses with duration of six years are equivalent to 7,200 hours. As the results show, Physical Therapy courses below the established limit of minimum hours and time of duration are still offered in Brazil, being so, this resolution suggests that these courses do not reach excellence in teaching quality.

The discrepancy in the number of public and private institutions found in the present study can be corroborated in the study by Cunha (20), which reports the difficulty in the development of federal Higher Education Institutions due to the restriction of resources for funding and investment, while private ones received new advantages. The Law of Guidelines and Basis of National Education, which resulted from a government-sponsored project, was conducive to privates' expansion. The author also shows data on the considerable increase, especially in the category of universities and university centers, which has resulted in the increase of the number of students in the sector. The novelty is the emergence

of university centers with autonomy to create, organize and extinguish higher education courses and programs, besides other attributions defined in its accreditation by the National Council of Education (4). However, universities are characterized by teaching, research and extension (post-graduation). Initially the institutions are accredited as colleges, but for the accreditation and autonomy of universities or university centers, the regular operation in a satisfactory standard of quality is required (21). Nonetheless, for quality assurance, it is necessary a more rigorous and reliable assessment of criteria for analysis, in addition to reviewing such criteria.

From 1991 to 2008 the number of courses in the health area increased by 458%. In the analyzed period, PT showed an increase of 892% (22), being among the courses that grew the most. The expansion of higher education and Physical Therapy courses occurred in a deregulated manner, generating problems such as lack of planning of the real need of physical therapists in order to take care of the population; poor quality of education, possibly due to the great expansion without rigorous evaluation criteria and imbalance between the areas of knowledge and geographic regions. There are two aspects concerning this expansion: the geographical concentration of courses and the privatization of education (23, 24).

The data presented in this study evidence that the great offer of undergraduate Physical Therapy courses in the private sector compared to the public developed in a disorderly way and without any planning. According to Haddad et al (8) and Barreyro (25), public institutions had a small growth and today the system of higher education in Brazil is predominantly private (88%), mainly in the health area as PT.

The lack of investment by the federal public sector in public universities was one of the central elements for the expansion of the private sector, favored by the National Council of Education that accelerated and facilitated the processes of authorization, recognition and accreditation of courses and private institutions. The government indulgence with the benefit of academic accreditation and funding has facilitated insufficient quality education in private institutions. On one hand, the federal Higher Education Institutions were affected by restriction of resources to continue operating as before and on the other hand, the private Higher Education Institutions received benefits, such as tuition that are charged to the students and an

exclusive investment credit line at subsidized interest rates (2, 20, 22).

According to data obtained in this study, the time of existence of the courses of up to ten years (mean of 10.13 years) corroborate with the study of Teixeira (9), in which the time of existence of the courses in most Higher Education Institutions is a reflection of the 1996 educational reform. After this reform there was an increase in the number of undergraduate Physical Therapy courses, especially in private institutions due to the federal incentive in the tax exemption. During this period, higher education has had an impact on public universities due to budget cuts and the lack of public tenders for professors, technical and administrative staff, strengthening the continuity of the expansion of private higher education and enrollment, by the allocation of public funding for private colleges and by the multiplication of private foundations in Higher Education Institutions (26).

Barreyro (25) and Dourado (27) observed a notable increase in the number of available positions in the selective processes for admission to higher education, confirming the data of this study. As a consequence of expansion, especially in the private education, there was a decrease in the candidate/vacancy ratio, reaching a vacancy for each candidate. The same author showed that the private sector possessed 68% of all enrollments in the night shifts, similar to the findings of the present study. The part-time preference was in private institutions (76.1%); it is worth mentioning that the part-time shift includes the morning, evening or night shifts. Although a short period of study facilitates the access of students to higher education, the training of professional physical therapists with less time dedicated to knowledge is something to worry about, inducing the courses to consider subjects with alternatives of distance learning and less articulation between teaching and service with the Brazilian Health System, in particular at night courses.

Regarding the category of academic organization, results obtained by Chaves, Lima & Medeiros (28), in the period of 1996 to 2005, after the regulation of Guidelines and Basis of National Education, showed a growth of 27.5% in the number of universities and 144.8% in the number of colleges, schools and institutes. There was a tendency to replace the model of integrated colleges by university centers. The Higher Education Institution is the place where higher education is taught, such as universities, colleges, schools and institutes. According to the Guidelines and Basis

of National Education, institutions are classified in public or private administrative categories. Public institutions are those created or incorporated, maintained and administered by public power, and privates are those maintained and administered by individuals or legal entities under private law. The Guidelines and Basis of National Education allowed the diversification of the academic organization, making the creation of university centers, integrated colleges, colleges and institutes or higher schools possible. In the year after the approval of the Guidelines and Basis of National Education, the creation of university centers began to increase from 13 in 1997 to 114 in 2005, a growth of 777%. According to the legislation, these institutions are allowed to teach without developing research and extension, thus implying lower costs. In addition, the university center has autonomy for the creation of new courses, without the prior authorization of the Ministry of Education. As the institutional function and autonomy between university centers and universities are similar, in this study their data were grouped, but they show the predominance of universities and university centers in private Higher Education Institutions mainly in the Southeast region (12, 25, 29 - 31).

Regionally, public and private Higher Education Institutions have different behaviors. Private institutions are more concentrated in the South and Southeast regions. Barreyro (25) and Figueiredo (26) verified a greater presence of the private sector in the regions of the country that have higher per capita income. In the 2010 census, the per capita income of the Southeast region was R\$ 943.34 and in the South region R\$ 919.90. In the states of São Paulo and Minas Gerais, the per capita income was R\$ 1,036.51 and R\$ 733.24, respectively (16).

Conclusion

The presented data show the great number of undergraduate Physical Therapy courses in the country, mainly in the private sector, with a high number of available vacancies and part-time shifts. Although some courses are in extinction, the majority is in activity. The preferred school regimen is the semiannual, with part-time shifts of different compositions and varied load and time of completion. Private institution courses have grown over the past 10 years and the federal ones in the last five. There is a concentration

of courses and vacancies in the Southeast region, especially in the state of São Paulo, followed by the Northeast region of the country. It is necessary to rethink the expansion of higher education in Physical Therapy with a better proportion of public and private ratio and availability of vacancies consistent with the need for regional loco health care, preserving the qualification of the education: full time, time of conclusion of five years and minimum of 4,000 hours. It is suggested that new studies are done, focusing on time series to acknowledge the trend of Physical Therapy courses in Brazil and the actual number of necessary courses.

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