

Physical therapists in primary health care: analysis of the national register of health service providers

Inserção da fisioterapia na atenção primária à saúde: análise do cadastro nacional de estabelecimentos de saúde em 2010

Inserción de la fisioterapia en la atención primaria de salud: análisis del Registro Nacional de Establecimientos de Salud en 2010

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ABSTRACT | This study aimed to describe the distribution of physical therapists in the Brazilian primary health care (PHC) and the ratio of inhabitants per physical therapist in PHC, according to the National Register of Health Service Providers (CNES – *Cadastro Nacional de Estabelecimentos de Saúde*). A descriptive cross-sectional study was conducted from CNES and Census/2010 data. In total, 6,917 physical therapists were registered in PHC, and most were located in the Southeast region (49%). Southeast and South were the regions with the best ratios of inhabitants per physical therapist in PHC (about 23,000/1). The North presented a ratio of 32,000 inhabitants/professional. 47% of the Brazilian cities have a physical therapist in PHC. Our analysis by population size indicated a higher percentage of physical therapists in PHC in small (39%) and midsize cities (34%). The best inhabitants/physical therapist ratio occurred in small cities of the Southeast (6,948/1) and the worst, in metropolises of the Midwest (371,672/1). Small cities have physical therapists only in PHC; on the other hand, most cities of larger sizes have physical therapists in all health care levels.

Keywords | Physical Therapy Specialty; Primary Health Care; Public Health.

RESUMO | O objetivo deste estudo é descrever a distribuição de fisioterapeutas na atenção primária à saúde (APS) no Brasil, e analisar a relação do número de habitantes por fisioterapeuta na APS, de acordo com

o Cadastro Nacional de Estabelecimentos de Saúde (CNES). Foi realizado um estudo transversal descritivo, a partir de dados do CNES e do Censo Demográfico de 2010. A partir disso, foram identificados 6.917 cadastros de fisioterapeutas na APS, com predomínio na região Sudeste (49%), a qual, em junto com a Sul, foram as regiões com melhores relações de habitantes por fisioterapeuta na APS (aproximadamente 23.000/1), enquanto na região Norte foram observados 32.000 habitantes por profissional. Dos municípios do Brasil, 47% possuem fisioterapeuta na APS, e a análise por porte populacional indicou maior percentual de fisioterapeutas na APS em municípios de pequeno porte (39%) e médio porte (34%). A melhor relação entre habitantes por fisioterapeuta ocorreu nos municípios de pequeno porte do Sudeste (6.948/1), e a pior em metrópoles do Centro-Oeste (371.672/1). Observou-se, ainda, que municípios de pequeno porte apresentam fisioterapeutas apenas na APS, ao passo que, por outro lado, a maioria dos municípios de demais portes possui fisioterapeutas em todos os níveis de atenção.

Descritores | Fisioterapia; Atenção Primária à Saúde; Saúde Pública.

RESUMEN | El objetivo de este estudio es describir la distribución de fisioterapeutas en la atención primaria de salud (APS) en Brasil y analizar la relación del número de habitantes por fisioterapeuta en la APS, según el

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Registro Nacional de Establecimientos de Salud (Renaes) – Cadastro Nacional de Establecimientos de Salud (CNES) en Brasil. Se realizó un estudio transversal descriptivo desde datos del Renaes y del Censo Demográfico de 2010. Desde eso, se identificaron 6.917 registros de fisioterapeutas en la APS, con predominio en la región Sudeste de Brasil (49%), que, junto con la Sur, fueron las regiones con las mejores relaciones de habitantes por fisioterapeuta en la APS (aproximadamente 23.000/1), mientras en la región Norte se observaron 32.000 habitantes por profesional. De los municipios de Brasil, el 47% presentan fisioterapeuta en la APS y el análisis por porte

poblacional indicó mayor porcentaje de fisioterapeutas en la APS en municipios de pequeño porte (39%) y medio porte (34%). La mejor relación entre habitantes por fisioterapeuta ocurrió en municipios de pequeño porte de la región Sudeste (6.948/1), y la peor en metrópolis de la Centro-Oeste (371.672/1). Se observó, además, que municipios de pequeño porte presentan fisioterapeutas solo en la APS, mientras que, por otro lado, la mayoría de los municipios de otros portes presenta fisioterapeutas en todos los niveles de atención.

Palabras clave | Fisioterapia; Atención Primaria de Salud; Salud Pública.

INTRODUCTION

Primary Health Care (PHC) is characterized as the first health care level, involving a set of actions aimed at enrolled areas¹. In 1994, the Family Health Program (PSF – *Programa de Saúde da Família*) was established as a PHC reorientation strategy². The experience in its first decade encouraged the inclusion of PHC in the set of priorities of the Pact for Health in 2006³; in the same year, the National Primary Care Policy (PNAB – *Política Nacional da Atenção Básica*)¹ was published, promoting the revision of the regulations published in this first period. The expansion, however, was involving mainly the professionals of the multidisciplinary team¹ (doctor, nurse, nursing assistant or technician, and community health agents) and of the oral health team¹ (dental surgeon, dental hygiene technician, and dental office assistant). Teams with other types of professionals were limited, existing according to local dynamics, without a national policy promoting the insertion of other categories into these teams. Seeking to expand the range and scope of PHC, the Family Health Support Center (NASF – *Núcleo de Apoio à Saúde da Família*) was created in 2008 by the Ministerial Decree no. 154/2008⁴, formally inserting other professional categories into the strategy by matrix support (collaborative care).

This insertion into PHC brings challenges for several professions, but mainly physical therapy, which had its origin worldwide at the end of the 19th century, focused on the treatment of people with physical and functional changes in late phases of health harms or diseases⁵. In Brazil, the profession was developed in

the first half of the 20th century⁶, in a context with high rates of occupational accidents⁵ and the need for care to the several individuals with poliomyelitis sequelae⁷, emphasizing the rehabilitation work that was being developed worldwide. In 1969, the profession was regulated by the Decree-Law no. 938⁸, under the influence of a concept in which the “post-disease” was a prerequisite for the intervention of physical therapy⁶. In the following years, until the end of the 20th century, while the country was redirecting the health system towards universality and a strengthened PHC, physical therapy had as main concern the assertion that ensured its space in the Brazilian health scenario, strengthening a specific field of work and remaining until today with the same legal regulations of that time⁶.

Despite this trend, some physical therapists started activities in PHC by creating trainee courses with students of the undergraduate course in the cities of Paraíba, Belo Horizonte, Juiz de Fora, and Natal and by directly taking part in the services, gradually approximating the profession to public health actions⁹⁻¹². From 2000 on, the activities were expanded with the creation of the multidisciplinary residencies in family health. From 2001 on, with the change of the National Curriculum Guidelines for the Course of Physical Therapy (Opinion CNE/CES 1,210/2001)¹³, the discussion was broadened, with the proposal of a generalist education to work in the prevention, promotion, protection, and rehabilitation of health, in all health care levels, both in the individual and collective spheres. From its publication, the new curricular guidelines encouraged several meetings. Since 2005, two National Forums of

Professional Policies were organized by the Federal Council of Physical Therapy and Occupational Therapy (COFFITO – *Conselho Federal de Fisioterapia e Terapia Ocupacional*), including education issues in their agenda¹⁴; in 2006, more than 20 workshops were carried out to implement the curriculum guidelines¹⁴; in 2007 and 2008, the National Forum of Education in Physical Therapy of the Brazilian Association of Education in Physical Therapy (ABENFISIO – *Associação Brasileira de Ensino em Fisioterapia*) included the topic “Physical Therapy in Primary Health Care” as its main discussion. Between 2007 and 2016, five versions of the National Congress of Physical Therapy in Public Health (CONAFISC – *Congresso Nacional de Fisioterapia em Saúde Coletiva*) were carried out, and, in 2016, the XXVI National Forum of Education in Physical Therapy presented the topic “Comprehensive health care and education of physical therapists: reformulation of the National Curriculum Guidelines as a strategy for the (re)qualification of health processes,” after the conduction of state workshops promoted by ABENFISIO to analyze and reformulate the national curricular guidelines of the undergraduate courses in physical therapy.

The approximation of the performance and education of physical therapists to the national health policies is promoting an increase in the number of physical therapists in PHC. According to information available in the website of the Department of Informatics of the Brazilian Unified Health System (DATASUS – *Departamento de Informática do Sistema Único de Saúde*)¹⁵, in 2005, there were 3,370 registers of physical therapists in PHC in the CNES. After six years, the number of registers almost tripled, reaching the total of 8,564 in 2011. However, it is important to note that the expansion of physical therapy in PHC is relatively recent, and that its role in this health care level is still under construction.

Thus, one must research the existing experiences to describe how the insertion of physical therapy in PHC is taking place. The existing studies, however, mostly analyze specific actions of a city or region, not presenting the insertion of this professional at the national level. This study aims to describe the distribution of physical therapists in the Brazilian PHC and the ratio of inhabitants per physical therapist in PHC in 2010, to show the situation of this professional in PHC right after the creation of the NASF, characterized as the

main policy of expansion of the professional categories involved in the family health strategy.

METHODS

A descriptive cross-sectional study was conducted from CNES and Census/2010 data. CNES is the main nationwide information system on health facilities in Brazil. It was created by the Brazilian Ministry of Health in 2000¹⁶, to help managers with subsidies for implementing health policies and contributing in the areas of planning, regulation, evaluation, control, audit, and teaching/research. It includes information regarding Physical Area, Human Resources, Equipment, and Outpatient and Hospital Services, serving as a basis for other information systems of the Brazilian Ministry of Health. The registration of public and private health facilities and of active professionals is mandatory, as determined by Ordinance no. 511/2000¹⁷.

The study was approved by the Human Research Ethics Committee of the Federal University of São Carlos, under Protocol no. 386/2009.

The data from the registers of physical therapists were collected in the CNES database in Brasília, Federal District, in March 2010, making it possible to know the distribution of these professionals right after the implementation of the main public policy of inclusion of physical therapists in PHC. The search included information from the 5,565 cities of Brazil, involving facilities with at least one physical therapist. It is important to note that professionals who work in more than one facility generate one register for each workplace. Thus, more than one register may exist for the same professional. The analyses of this study considered the total number of registers.

The following information were obtained for each facility: type of facility; number of physical therapists; region, federative unit (FU), and city.

The following centers were considered as PHC facilities: health center, primary health care unit, family health support center, fluvial health care unit. The remaining facilities were considered as “Other health care levels,” and included: specialized clinic/specialty outpatient clinic; polyclinic; doctor’s office; cooperative; psychosocial care center and support, diagnosis, and therapy unit (SADT – *Serviço de Apoio Diagnóstico Terapêutico*); general hospital; specialized hospital;

day hospital; normal childbirth center; emergency room; specialized emergency room; pre-hospital level mobile unit; mixed health unit (which provides both PHC and specialized service (hospitalization and emergency); center for regulation of health services; health secretariat; health surveillance unit; land mobile unit; indigenous health care center; and hemotherapy and/or hematology health care center.

The number of inhabitants of the cities was collected from the results of the Census/2010¹⁸, using the following classification for the population size¹⁹: small size: population up to 20,000 inhabitants; midsize: between 20,001 and 100,000 inhabitants; large size: between 100,001 and 500,000 inhabitants; metropolis: over 500,000 inhabitants. Data were analyzed by descriptive statistical techniques. The ratio of physical therapists per 1,000 inhabitants was calculated from the total of registers of physical therapists \times 1000/number of inhabitants

RESULTS

Distribution of registers of physical therapists in PHC

In total, 6,917 physical therapists were registered in PHC. Southeast and South accounted for 49% and 16% of the registers, a ratio higher than the population representation of these regions (42% and 14% of the Brazilian population, respectively). North, Midwest, and Northeast accounted for 4%, 6%, and 24% of registers, respectively, with values lower than their population distribution (8%, 8%, and 28%).

This distribution affects the ratio of inhabitants per physical therapist, as Table 1 shows. South and Southeast presented the best ratios, with about 23,000 inhabitants/physical therapist in PHC. The North region presented the worst ratio (58,761 inhabitants/physical therapist).

Table 1. Distribution of registers of physical therapists in primary health care (PHC) and ratio of inhabitants per professional according to regions and federative units, 2010

Federative units (FU)	Registers of physical therapists in PHC facilities									Population n	Ratio n of inhabitants per physical therapist in PHC
	Small size		Midsize		Large size		Metropolises		Total (100%)		
	n	%	n	%	n	%	n	%	n		
North	83	31	122	45	55	20	10	4	270	15,865,678	58,761/1
Acre	7	50	2	14	5	36	-	-	14	732,793	52,342/1
Amapá	6	19	10	32	15	49	-	-	31	668,689	21,570/1
Amazonas	5	8	43	69	8	13	6	10	62	3,480,937	56,144/1
Pará	11	19	34	60	8	14	4	7	57	7,588,078	133,124/1
Rondônia	7	25	18	64	3	11	-	-	28	1,560,501	55,732/1
Roraima	8	47	1	6	8	47	-	-	17	451,227	26,542/1
Tocantins	39	64	14	23	8	13	-	-	61	1,383,453	22,679/1
Northeast	392	24	809	48	264	16	192	12	1,657	53,078,137	32,032/1
Alagoas	36	37	52	53	9	9	1	1	98	3,120,922	31,846/1
Bahia	92	26	178	49	66	18	26	7	362	14,021,432	38,733/1
Ceará	39	11	184	48	69	18	86	23	378	8,448,055	22,349/1
Maranhão	18	11	115	71	13	8	16	10	162	6,569,683	40,553/1
Paraíba	83	33	86	33	52	20	37	14	258	3,766,834	14,600/1
Pernambuco	20	13	100	63	26	16	13	8	159	8,796,032	55,320/1
Piauí	35	43	40	48	8	9	-	-	83	3,119,015	37,578/1
Rio Grande do Norte	64	57	29	26	7	6	13	11	113	3,168,027	28,035/1
Sergipe	5	12	25	57	14	31	-	-	44	2,068,133	47,003/1
Midwest	218	52	141	34	44	10	14	3	417	14,050,340	33,693/1
Federal District	-	-	-	-	-	-	7	100	7	2,562,963	366,137/1
Goiás	89	43	88	42	29	14	3	1	209	6,004,045	28,727/1
Mato Grosso	28	63	13	29	2	4	2	4	45	3,033,991	67,422/1
Mato Grosso do Sul	101	65	40	26	13	8	2	1	156	2,449,341	15,700/1

(continues)

Table 1. Continuation

Federative units (FU)	Registers of physical therapists in PHC facilities									Population n	Ratio n of inhabitants per physical therapist in PHC
	Small size		Midsize		Large size		Metropolises		Total (100%)		
	n	%	n	%	n	%	n	%	n		
Southeast	1,311	38	1,008	30	675	20	406	12	3,400	80,353,724	23,633/1
Espírito Santo	86	41	89	42	37	17	-	-	212	3,512,672	16,569/1
Minas Gerais	658	52	376	29	166	13	82	6	1,282	19,595,309	15,284/1
Rio de Janeiro	29	5	204	38	242	45	68	12	543	15,993,583	29,454/1
São Paulo	538	39	339	25	230	17	256	19	1,363	41,262,160	30,273/1
South	638	5	285	24	137	12	113	10	1,173	27,384,815	23,345/1
Paraná	224	46	115	24	57	12	90	18	486	10,439,601	21,480/1
Rio Grande do Sul	220	56	98	25	57	14	19	5	394	10,695,532	27,146/1
Santa Catarina	194	66	72	25	23	8	4	1	293	6,249,682	21,329/1
Brazil	2,642	38	2,365	34	1,175	17	735	11	6,917	190,732,694	27,574/1

Source: Brasil²⁰ and Instituto Brasileiro de Geografia e Estatística¹⁸.

The distribution according to the population size of the cities indicated a higher percentage in small cities (38%), followed by midsize cities (34%), large cities (17%), and metropolises (11%). The North and Northeast presented an opposite trend, with greater concentration in midsize cities (48% and 45%, respectively).

The low number of registers in metropolises results in a ratio six times greater than the one verified in small cities: 76,000 inhabitants/physical therapist in metropolises in contraposition to 12,000 inhabitants/physical therapist in small cities (Table 2). Small cities in the Southeast presented the lowest ratio (6,948 inhabitants/physical therapist).

Table 2. Ratio of inhabitants per physical therapist in PHC between the regions of the country, according to the population size of the cities in 2010

Regions	Number of inhabitants per physical therapist in PHC			
	Small size	Midsize	Large size	Metropolises
North	29,270	50,680	73,793	319,455
Northeast	30,316	24,859	31,679	66,248
Midwest	12,739	24,596	59,130	371,672
Southeast	6,948	15,668	36,901	75,226
South	10,162	28,375	63,030	36,979
Brazil	12,370	22,681	41,334	75,970

Source: Brasil²⁰ and Instituto Brasileiro de Geografia e Estatística¹⁸.

Number and percentage of cities with physical therapist in PHC

In total, 47% of the cities have at least one physical therapist registered in PHC, and the coverage in the Southeast (62%) was twice as that of the North (31%), as Table 3 shows. Regarding population size, the highest proportions were observed in the metropolises.

Table 4 classifies the cities according to the health care levels that offer physical therapy. Most cities had

registers in both PHC and other health care levels (38%), followed by cities with registers only in other levels, thus without physical therapy in PHC (34%). The percentage of cities with registers only in PHC represented 28% of the cities with physical therapists.

Concerning population size, most small cities only have physical therapists in PHC (40%), while larger cities also have this professional in other health care levels (Table 4). Among the small cities that have a physical therapist in PHC (1,818), 60% had this professional only in this health care level.

Table 3. Number and proportion of cities with physical therapists in primary health care (PHC), 2010

Federative Units (FU)	Cities with physical therapists in PHC									
	Small size		Midsize		Large size		Metropolises		Total	
	n	Pp%	n	Pp%	n	Pp%	n	Pp%	n	Pp%
North	67	24	58	38	12	63	2	100	139	31
Acre	3	20	1	17	1	100	-	-	5	23
Amapá	5	42	2	100	1	50	-	-	8	50
Amazonas	3	10	15	48	1	100	1	100	20	32
Pará	8	19	26	29	5	50	1	100	40	28
Rondônia	5	14	8	53	2	100	-	-	15	29
Roraima	7	54	1	100	1	100	-	-	9	60
Tocantins	36	28	5	62	1	50	-	-	42	30
Northeast	275	23	305	56	37	80	9	82	626	35
Alagoas	32	52	22	58	1	100	1	100	56	55
Bahia	66	27	77	50	10	71	2	100	155	38
Ceará	22	24	60	71	7	100	1	100	90	49
Maranhão	11	9	41	50	6	86	1	100	59	27
Paraíba	60	31	24	92	3	100	1	100	88	39
Pernambuco	13	16	50	55	6	60	2	100	71	38
Piauí	20	10	13	56	1	100	-	-	34	15
Rio Grande do Norte	46	33	10	42	2	100	1	100	59	35
Sergipe	5	10	8	38	1	100	-	-	14	40
Midwest	130	36	48	54	10	71	4	100	192	41
Federal District	-	-	-	-	-	-	1	100	1	100
Goiás	62	32	26	60	06	75	1	100	95	38
Mato Grosso	23	20	7	28	01	33	1	100	32	22
Mato Grosso do Sul	45	85	15	71	03	100	1	100	64	82
Southeast	733	64	220	57	76	62	11	65	1,040	62
Espírito Santo	29	69	22	81	7	78	-	-	58	74
Minas Gerais	400	59	88	59	20	80	3	75	511	60
Rio de Janeiro	12	44	28	72	16	73	3	75	59	64
São Paulo	292	73	82	48	33	50	5	55	412	64
South	477	51	94	47	26	59	4	100	601	51
Paraná	152	49	35	51	8	50	2	100	197	49
Rio Grande do Sul	176	44	37	45	10	59	1	100	224	45
Santa Catarina	149	64	22	45	8	73	1	100	180	61
Brazil	1,682	43	725	53	161	66	30	79	2,598	47

Source: Brasil²⁰ and Instituto Brasileiro de Geografia e Estatística¹⁸.

Note: Pp% - proportion of cities with physical therapists in primary health care compared to the total number of cities in each region and Federative Unit.

Table 4. Total of cities with physical therapists according to the health care levels that have this professional in 2010

Health care levels with registered physical therapists	Small Size	Midsize	Large Size	Metropolises	Brazil
Registers only in PHC facilities*	1,084 (40%)	99 (8%)	-	-	1,183 (28%)
Register only in facilities of other health care levels**	863 (33%)	503 (39%)	82 (33%)	6 (16%)	1,454 (34%)
Registers in PHC and other health care levels	734 (27%)	685 (53%)	163 (67%)	32 (84%)	1,614 (38%)
Total of cities with physical therapist	2,681 (100%)	1,287 (100%)	245 (100%)	38 (100%)	4,251 (100%)
Total of cities in Brazil	3,915	1,367	245	38	5,565

Source: Brasil²⁰ and Instituto Brasileiro de Geografia e Estatística¹⁸.

* Primary Health Care Facilities: health center, primary health care unit, family health support center, fluvial health care unit.

** Facilities of other health care levels: specialized clinic/specialty outpatient clinic; polyclinic; doctor's office; cooperative; psychosocial care center and support, diagnosis, and therapy unit (SADT - Serviço de Apoio Diagnóstico Terapêutico); general hospital; specialized hospital; day hospital; normal childbirth center; emergency room; specialized emergency room; pre-hospital level mobile unit; mixed health unit; center for regulation of health services; health secretariat; health surveillance unit; land mobile unit; indigenous health care center; and hemotherapy and/or hematology health care center.

DISCUSSION

The analysis of the distribution of physical therapists in PHC identified a concentration of professionals in the Southeast and South above the population representation of these regions, while in the Northeast, North, and Midwest had concentrations below their population representation. Southeast and South also presented the best ratios of physical therapists per inhabitant and the highest proportions of cities with physical therapists in PHC compared to the total number of cities.

The data resemble the results observed in studies that analyzed the distribution of registers of physical therapists in the CNES regardless of the health care level^{21,22}. Several factors were associated with the concentration of professionals in the regions with greater economic development, including socioeconomic and historical factors that affect population distribution, the formation of the health care network, and the allocation of higher education institutions, promoting a higher number of inhabitants, health facilities, and professionals trained in the Southeast and South²².

The authors discuss the correlation between the offer of health services, their participation in the national Gross Domestic Product (GDP), and the Human Development Index, noting that the economic influence in the creation of the health system promotes inequality in the distribution of services and has its origin in the historical process of health care in Brazil²².

In contrast, DATASUS data from the same period²⁰ show that the professions of Nurse, Doctor, and Dentist of the Family Health Strategy are better distributed across regions, with prevalence of registers in the Northeast (40%), followed by 30% in the Southeast, 14% in the South, 8% in the North, and 7% in the Midwest.

The greater dispersion of the professions linked to PHC can also be verified in the database of the portal of the department of primary health care²³ for the year 2010, with the 30,782 family Health teams (eSF – *Equipes de Saúde da Família*) and 1,250 NASF teams distributed as follows: 41% and 47% in the Northeast, 31% and 30% in the Southeast, 14% and 9% in the South, 7% and 7% in the North, and 8% and 7% in the Midwest, respectively. The updated data of February 2017 indicate the following distribution of the 39,859 eSF and the 4,010 NASF teams: 37% and 43% in the Northeast, 33% and 28% in the Southeast, 15% and

14% in the South, 7% and 7% in the North, and 8% and 7% in the Midwest, respectively²⁰.

Therefore, one can verify that the distribution of physical therapists in the country showed regional differences both in specialized health care levels^{21,22} and in PHC, diverging from other professions that present greater dispersion in PHC. Recent data must be studied to identify whether there was greater equity between the Brazilian regions after a longer implementation period of the NASF.

Our data also show that, regarding population size, most registers of physical therapists in PHC occurred in small cities, followed by midsize cities, large cities, and metropolises. This distribution differs from that of the study²² that identified all physical therapists with registers in the CNES, in which 36% of professionals were working in metropolises and 28% in large cities, totaling 64%. Physical therapists of midsize cities represented 24% of the total, and those of small cities, only 12% of the professionals.

This distribution is probably associated with the hierarchical and regionalized formation of the health system. Considering the large number of small or midsize cities (95% of the total cities in Brazil), most Brazilian cities present insufficient range to accommodate all health care levels in their territory, presenting only PHC facilities, with the offer of specialized levels distributed in micro and macro health regions²⁴.

In this context, PHC facilities are likely the only alternative for the insertion of these professionals in small cities and, as the population increases, facilities of other health care levels already exist, and thus physical therapy starts to be mainly concentrated in more specialized levels.

The number of patients with functional changes who need rehabilitation has been increasing, mainly because of the high rates of traffic accidents and violence, the process of population aging, and the increase of chronic degenerative diseases and work-related diseases. In small and midsize cities with absence of specialized care and with difficulties of transportation to centers located outside the city, the pressure for therapeutic care falls on the PHC professional, generating the risk of the propagation of the health care adopted in outpatient clinics and hospitals.

In most large cities and metropolises, physical therapists are registered in all health care levels. Rodrigues²⁵ points out, however, that the difficulty of transportation to specialized centers, both because

of physical and economic limitations, is an obstacle to access, generating a repressed demand for physical therapy. The author also mentions the existence of insufficient vacancies with long waiting lists. Before this repressed demand and the limited number of physical therapists working in PHC in large cities and metropolises (compared to the total number of inhabitants), it is possible that the propagation of outpatient and hospital care is also observed in part of PHC professionals from large urban centers.

Thus, according to the distribution observed, although the insertion of physical therapists in PHC helps actions of promotion, prevention, and public health of this health care level, it still faces challenges related to outpatient and therapy demand. This risk increases when considering the history of training and performance of physical therapy, with focus on specialized care. Belettini et al.²⁶ confirm these statements, identifying that, among the physical therapists working in NASFs of Santa Catarina, the community and NASF team did not clearly know the role of this professional in PHC; 65.2% of them worked in therapeutic groups and 43.7% affirmed spending most of their time in individual care. Souza et al.²⁷ describe the following situations: demand, by patients and team, of the continuous presence of the physical therapist in domiciliary care; conflicts in the implementation process because of the difficulty in understanding the work process of the NASF; tendency to perceive the NASF as an outpatient clinic; and a limited perspective about the action of the physical therapist (devices/equipment), associating the practice with hard technology. The same challenge has been reported in studies of other professions^{28,29}.

Nakamura e Leite²⁹, in a study involving NASF pharmacists in a city of the South, highlight difficulties in the planning process, lack of clear objectives for the NASF team, and deficiencies in the pharmaceutical services of the city, creating challenges for the structuring of the work process. The authors argue that one of the difficulties is the inadequate description of the work process in the first version of the "NASF Guidelines," published in the Primary Health Care Journal (*Caderno da Atenção Básica*) no. 27³⁰. The version published in 2014 (number 39³¹), however, has a clearer, interdisciplinary, and organizing direction of the work processes for NASF teams, and might bring greater safety in the development of this process.

The Ordinance GM no. 154, of January 24, 2008⁴, which determined the creation of the NASF in the modalities 1 and 2 and set the criteria for their implementation, included only part of the Brazilian cities, and small cities were those that faced more obstacles. From these difficulties, the Ordinance no. 3,124, of December 28, 2012³² redefined the parameters for linking modalities 1 and 2 to the family health teams and/or primary health care teams for specific populations, and created modality 3, to enable the universalization of these teams to all Brazilian cities. This Ordinance was supplemented by Ordinance no. 548, of April 4, 2013³³, which sets the financing value of the Variable Primary Health Care Wage (*Piso da Atenção Básica Variável*) for the three NASF modalities. Thus, future prospects bring the possibility of expanding the number of covered cities and the number of professionals working in PHC.

The problems addressed by this study, however, take place not only in the Brazilian health care system. International organizations such as the World Confederation for Physical Therapy (WCPT) and associations of physical therapists of the United Kingdom, Canada, Scandinavia, Australia, New Zealand, and Spain have discussed the role of physical therapy in this health care level, drawing attention to its still limited performance in PHC³⁴.

Regarding the Spanish health system, Paz³⁴ points out that the insertion of this profession started in 1987 by the creation of "rehabilitation units" located in PHC, which emerged to solve problems of accessibility to physical rehabilitation services, under the same professional regulation until then directed to physical therapists of specialized care and with a hospital-oriented training.

Given these factors, the first actions of physical therapists in the Spanish PHC propagated the actions of tertiary health care, which are inadequate to the primary level, thus putting promotion and prevention aside³⁵. In 1990, the law regarding physical therapy in PHC is released³⁴. In 2003, Europe passes through a unification of the professional training curricula, including aspects of community physical therapy³⁶ and, in the same year, the WCPT creates the Declaration of Principles of PHC, approved at the 15th General Meeting of WCPT.

With the training and legislative developments, since the beginning of the insertion of physical therapy in Spanish PHC until now, a significant evolution

has been identified in health promotion and disease prevention, including physical therapists no longer as a mere element to reduce demands for the specialized services, but as an important part in creating a comprehensive health care process³⁴.

Similar developments have been taking place in other countries, accompanied by training and legislative adjustments. Finland is the country in which the figure of the physical therapist is well regulated in PHC, with the integration of this professional to the team work in health centers and with the best ratio of inhabitants per physical therapist in European PHC³⁶.

The Brazilian physical therapy, thus, has been expanding its insertion in PHC, and part of the problems it has been facing are common to most countries. With the changes brought by the new curricular guidelines of the undergraduate course in physical therapy and with the increasing inclusion of these professionals in projects to reorient the practices of training and continuing education of health professionals, such as the National Program of Reorientation of the Professional Training in Health (Pró-Saúde – *Programa Nacional de Reorientação da Formação Profissional em Saúde*), multidisciplinary residencies, specialization courses, Program of Education by Work for Health (PET Saúde – *Programa de Educação pelo Trabalho para a Saúde*), National Program of Technology for Health (*Programa Nacional de Telessaúde*), and introductory courses for family health teams, it is possible that, in the near future, the insertion of these professionals in PHC will be a reality in the country².

This search for training adjustments must be accompanied by legislation and regulations that establish the role of this professional in the teams, especially when considering that the latest resolution on the professional practice of physical therapists dates back to 1987⁶, before the creation of SUS.

It should also be noted the need to increase the number of physical therapists, considering that more than half of Brazilian cities do not have this professional in PHC. This need is particularly highlighted in the North, Northeast, and Midwest, which have about 70%, 65%, and 60% of their cities without physical therapists in PHC, besides presenting the highest ratios of inhabitants per professional. These figures point out that regions far from the South-Southeast axis still have a limited insertion of physical therapists, especially in smaller cities. The difficulty of inserting professionals in

these places is common in health professions, as Campos et al.³⁷ and Brasil³⁸ highlight in the report of the National Seminar on Scarcity, Provision, and Insertion of Health Professionals in Remote and Vulnerable Areas (*Seminário Nacional sobre Escassez, Provimento e Fixação de Profissionais de Saúde em Áreas Remotas e de Maior Vulnerabilidade*).

Although 79% of large cities have a physical therapist in PHC, their number of professionals must also be increased, because this number is low compared to the total number of inhabitants, resulting in the worst ratios of inhabitants/physical therapist identified.

Finally, the increase in the number of physical therapists must reach, in addition to PHC, more complex health care levels, ensuring specialized support and a ratio of inhabitants/professional that allows greater participation in PHC actions.

CONCLUSION

Southeast and South were the regions with most physical therapists registered in PHC. Small cities were the main locations with the insertion of these professionals, and most registers of physical therapists were identified only in PHC, without the support of specialized care. The worst ratios of inhabitants/physical therapist in PHC were observed in metropolises. Less than half of the Brazilian cities presented a physical therapist in PHC, and the proportion of places that do not have this professional is still high.

Before the low number of professionals in PHC and without the proper support of the specialized levels, the development of interventions that broaden and strengthen the work of physical therapists both in PHC and in specialized services is greatly important to ensure the appropriate development of actions for each health care level. The interventions must include health and professional training policies, as well as rules and regulations concerning the professional practice of physical therapists.

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