

Physiotherapy in Primary Care in Brazil based on a Quality Assessment Program: cross-sectional study

**Fisioterapia na Atenção Primária no Brasil baseado em um Programa de Avaliação da Qualidade:
estudo transversal**

**Fisioterapia en Atención Primaria en Brasil a partir de un Programa de Evaluación de la Calidad:
un estudio transversal**

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Abstract

Objectives: analyze the presence of physical therapists in the minimum Primary Health Care teams in the five regions of Brazil and to compare the presence of equipment directed to their performance. Methods: a cross-sectional study using data from Module I of the 3rd Cycle of the Quality Assessment Program in Primary Care from Primary Care Units where physical therapists worked in. The association between the presence of physiotherapist and greater equipment in the units was assessed using the Chi-Square Test. Results: In all of Brazil, 26.3% of the Units had another professional working in addition to the Primary Care Team, and among these, 24.8% was physiotherapist. It was observed that, compared to the national proportion, the Northeast Region had the highest proportion of inserted professionals ($p = 0.017$). An association was observed between the presence of the professional and equipment, with some specific ones more present in places with physiotherapists ($p < 0.05$). Conclusions: The number of physiotherapists working together with the Primary Care Teams in Brazil is low. However, their work with the population signals new professional possibilities for action.

Keywords: Physical therapists; Primary health care; Physical therapy speciality; Cross-sectional studies.

Resumo

Objetivo: analisar a presença do fisioterapeuta junto à equipe mínima atuante na Atenção Primária à Saúde nas cinco regiões do Brasil e compará-las em relação a presença de equipamentos para atuação deste profissional. **Métodos:** estudo transversal com dados do Módulo 1 do 3º Ciclo do Programa de Avaliação da Qualidade da Atenção Primária de Unidades Básicas de Saúde onde havia inserção do fisioterapeuta. A associação entre a presença do fisioterapeuta e a maior quantidade de equipamentos foi analisada pelo teste Qui-Quadrado. **Resultados:** No Brasil, 26,3% das Unidades possuíam outro profissional trabalhando juntamente com a equipe de Saúde da Família, e, entre estes, 24,8% eram fisioterapeutas. Foi observado que, comparado a proporção nacional, a região Nordeste tinha a maior proporção de profissionais inseridos nos serviços ($p=0,017$). A associação foi observada entre a presença dos profissionais e de equipamentos, com aqueles mais específicos mais presentes em locais onde o fisioterapeuta atuava ($p<0,05$). **Conclusão:** O número de fisioterapeutas trabalhando em conjunto com as equipes de Atenção Primária no Brasil é pequeno. Entretanto, seu trabalho com a população sinalizam novas possibilidades de atuação profissional.

Palavras-chave: Fisioterapeutas; Atenção primária à saúde; Fisioterapia; Estudos transversais.

Resumen

Objetivo: analizar la presencia del fisioterapeuta con el equipo mínimo que trabaja en Atención Primaria de Salud en las cinco regiones de Brasil y compararlos en relación a la presencia de equipos para el desempeño de este profesional. **Métodos:** estudio transversal con datos del Módulo 1 del 3er Ciclo del Programa de Evaluación de la Calidad de la Atención Primaria en las Unidades Básicas de Salud donde se insertó el fisioterapeuta. La asociación entre la presencia del fisioterapeuta y la mayor cantidad de equipamiento se analizó mediante la prueba de Chi-cuadrado. **Resultados:** En Brasil, el 26,3% de las Unidades contaba con otro profesional que trabajaba en conjunto con el equipo de Salud de la Familia y, entre estos, el 24,8% eran fisioterapeutas. Se observó que, en comparación con la proporción nacional, la región Nordeste presentó la mayor proporción de profesionales insertados en los servicios ($p = 0,017$). La asociación se observó entre la presencia de profesionales y equipos, siendo los más específicos, más presentes en los lugares donde trabajaba el fisioterapeuta ($p < 0,05$). **Conclusión:** El número de fisioterapeutas que trabajan en conjunto con los equipos de Atención Primaria en Brasil es pequeño. Sin embargo, su trabajo con la población indica nuevas posibilidades de desempeño profesional.

Palabras clave: Fisioterapeutas; Atención primaria de salud; Fisioterapia; Estudios transversales.

1. Introduction

The Declaration of Alma Ata, 1978, is considered a world benchmark for the contemporary debate on the Primary Health Care (PHC). This document signaled to the world the need to promote conditions of access to health for all, emphasizing the central role of APS. In 2018, the Astana Declaration was signed by several countries around the world, and reaffirmed the proposal in Alma Ata (Pinto, 2020). The world literature has built an evidence base that indicates APS as the most inclusive, effective and efficient strategy for the approach of the global epidemiological profile and the expansion of access to health services (Barbazza, 2019; Massuda, 2020).

In 2003, the World Confederation for Physical Therapy produced the document “Primary Health Care and Community Based Rehabilitation: Implications for physical therapy based on a survey of WCPT's Member Organizations and a literature review”. In it, it is pointed out that there was an insufficiency in the number of physiotherapists worldwide, which demanded the need to structure models of Physiotherapy services that would broaden their access. This proposition was anchored in the existence of an international policy to promote PHC and the need for stronger guidance for rehabilitation at this level of health care, balanced with the emphasis on health promotion and disease prevention (WHO, 2003).

In Brazil, as of mid-1990s, the broad expansion of access to this level of care is noted, due to the adoption of the Family Health Strategy (FHS) as the preferred model for PHC operationalization. Evidence points out that this strengthening of PHC in the Unified Health System (SUS, in portuguese) produced positive impacts on the health conditions of the Brazilian population (Giovannella, 2006; Carvalho, 2019; Tavares, 2018; Pinto, 2020).

In the case of physiotherapy, in Brazil, its insertion in APS is under construction. Historically, its practices have been concentrated at the secondary and tertiary levels, which implied a great difficulty in integrating physiotherapy into APS. However, in 2000, with the creation of multiprofessional residencies in Family Health and, in 2001, with the change of the National Curricular Guidelines for the Physiotherapy Course (Opinion CNE/CES nº 1.210 / 2001), the discussion was

broadened, with the proposal of generalist training to act in the promotion, prevention, protection and rehabilitation, at all levels of health care, both individually and collectively (Ministério da Saúde, 2001; Tavares, 2018).

In 2008, the Family Health Support Centers were created, renamed in 2017 as Extended Family Health and Primary Care Centers (NASF/AB, in portuguese), with a view to expanding the scope of actions and problem solving in PHC and, on these multiprofessional teams, the physiotherapist can be inserted. The composition is defined according to the needs of the municipality/territory (Ministério da Saúde, 2008; Ministério da Saúde, 2017) Thus, through a federal initiative, the physiotherapist was inserted in the context of Brazilian APS.

The relationship between Primary Health Care Teams (EqSF or eAB, in portuguese) in Brazil and NASF – AB depends on the type of NASF-AB that are inserted in the service. They are always multiprofessional teams and the definition of professional categories is the autonomy of the local manager, and must be chosen according to the needs of the territories. There are 3 types of NASF-AB teams: NASF - AB type I: support from 5 to 9 EqSF/eAB, NASF - AB type II: support from 3 to 4 EqSF/eAB, and NASF - AB type III: support from 1 to 2 EqSF/eAB. The professional possible into any of the teams are: acupuncturist doctor; social worker; physical education professional / teacher; pharmaceutical; physiotherapist; speech therapist; gynecologist / obstetrician; homeopathic doctor; nutritionist; pediatrician; psychologist; psychiatric doctor; Occupational Therapist; geriatric doctor; internist (medical clinic), occupational physician, veterinarian, professional with training in art and education (art educator) and health professional (Ministério da Saúde, 2017).

Considering the provisions of the legislation that regulates NASF - AB, each team must support at least three EqSF. Thus, it is estimated a ratio of approximately 10,000 people under the responsibility of the physiotherapists of each NASF/AB, suggesting that the expansion of access to physical therapy, through this strategy, may be insufficient (Ministério da Saúde, 2013). Associated with this high number of people is the lack of training and limitation of professionals in using assistive technologies for PHC, such as expanded clinic and construction of a Singular Therapeutic Project (STP), restricting the performance guided by physical equipment and rehabilitation techniques, typical of the secondary level of care (Fernandes, 2016).

The Brazilian literature already has production, even if incipient, addressing the insertion and practices of the physiotherapist in the NASF/AB (Fernandes, 2016; Freire, 2020; Sousa, 2020). However, the insertion of this professional in EqSF has not gained attention from the scientific community. In this context, this article aimed to analyze the presence of physical therapists in the EqSF in the five regions of Brazil and to compare the presence of equipment directed to their performance in Basic Health Units (BHU).

2. Methodology

This is a cross-sectional study, based on data from Module I, of the 3rd Cycle of the Quality Assessment Program in Primary Care (PMAQ/AB), which was collected between the years 2017 and 2018. The PMAQ/AB is a national program to assess PHC system that aims to induce the expansion of access and improve its quality in the national territory. With its data it is possible to build parameters of comparison between the health teams, considering the different regional realities (Ministério da Saúde, 2015). The criteria of cross-sectional study was based on STROBE criteria, considering that conditions of the selected study desing was completed (Malta, 2010).

In the 3rd Cycle of the PMAQ/AB, 5 324 municipalities (95.6%) and 38,865 (93.9%) PHC teams in Brazil voluntarily joined the assessment. The Module I of the 3rd Cycle of the PMAQ/AB evaluated the conditions of infrastructure, teams, supplies, materials and medicines in the UBS, considered important indicators of these professionals' working conditions. Such questions were evaluated in *locus* by a team duly trained to do so. The data for this research were obtained from the

Ministry of Health's website in a public domain bank (<https://APS.saude.gov.br/ape/pmaq/ciclo3/>), in which the anonymity of the subjects who participated in the evaluation is ensured.

In this study, percentages from the five regions of Brazil (North, Northeast, Midwest, Southeast and South) and national values were considered for comparison. In the first analysis, the totalities of the units were considered and the percentage of them that had other professionals included in the EqSF was compared. Then, considering only the BHU that had other professionals, the percentages in which the Physiotherapist was present among these professionals were calculated.

Then, the presence of equipment in the BHU associated with physical therapy was evaluated, based on dichotomous responses of the type “Yes” or “No”: measuring tapes or anthropometric tapes, stools, mats, reflex hammers, dumbbells, anklets, elastic bands, electrotherapy equipment such as TENS or FES, ultrasound, positioning rollers and goniometers, all in working condition. In each region and in Brazil, the presence of equipment between BHU where a physiotherapist worked or not was compared. Considering only those units where physiotherapists worked, their percentage where the equipment was present in each of the five regions and across the country was compared.

The comparisons between the regional and national percentages were performed by the Z Test for comparison of proportions, considering $p < 0.05$ significant. The comparison between the percentage of units that had or did not have a physiotherapist working in the EqSF and that did or did not have each of the selected equipment, within each region and in Brazil, was performed by Pearson's Chi-Square Test, considering it significant those in which the p-value of X^2 was less than 0.05. All analyses were performed using the statistical program R 64 4.0.0 (<https://www.R-project.org/>).

3. Results

This study included 30,346 BHU from all over Brazil. Of these, 4 341 (14.3%) in the South, 8 795 (29.0%) in the Southeast, 2 230 (7.3%) in the Midwest, 12 596 (41.5%) in the Northeast and 2 384 (7, 9%) in the North.

Table 1. Comparison of the percentage of physiotherapists among the total number of professionals inserted in addition to the Minimum Team in the ESF between the regions of Brazil and national values.

	South	Southeast	Mid West	Northeast	North	Brazil
Units Evaluated n (%)	4 341 (14.3%)	8 795 (29.0%)	2 230 (7.3%)	12 596 (41.5%)	2 384 (7.9%)	30 346 (100.0%)
Has another professional in the team						
n (%)						
Yes:	1 831 (44.3%)	3 291 (39,6%) 5 005 (60.4%)	415 (19,5%)	1 641 (13,7%) 10 325 (86.3%)	386 (17,3%)	7 564 (26,3%) 21 175 (73.7%)
No:	2 302 (55.7%)	8 296 (100%)	1 703 (80.6%)	11 966 (100%)	1 840 (82.7%)	28 734 (100%)
Total:	4 133 (100%)		2 118 (100%)		2 226 (100%)	
Professional Physiotherapist						
n (%)						
None:	1362 (74.3%)	2517 (76.4%) 774	315 (75.9%)	1188 (72.3%) 453	309 (80.0%)	5691 (75.2%) 1873 (24,8%)
At least 1:	469 (25.7%) 1831 (100%)	(23.6%) 3291	100 (24.1%)	(27.7%) 1641	77 (20.0%)	7564 (100%)
Total		(100%)	415 (100%)	(100%)	386 (100%)	
Professional Physiotherapist (n)	621	1023	139	589	84	2450
p*	0,467	0,173	0,804	0,017	0,037	
IC95%	-0,014 – 0,031	-0,030 – 0,005	-0,050 – 0,036	0,004 – 0,052	-0,090 – -0,005	

* Comparison of the proportion of at least 1 physiotherapist outside NASF in Teams with the presence of another professional from each region with the national proportion. (Z test for proportions)
Source: Own elaboration.

Table 1 presented the comparison between the percentage of physiotherapists and the total number of professionals inserted in addition to EqSF in the regions of Brazil and the national values. The highest percentage of UBS that had the performance of another professional with the EqSF was the South (44.3%) and the lowest was the Northeast (13.7%). However, the Northeast region was the one that, among the BHU that had other professionals, had the highest percentage of physiotherapists (27.7%) and this one differed this region from the percentage verified nationally ($p = 0.017$). On the other hand, the North region of Brazil, had the lowest proportion of physiotherapists identified, compared to the national proportion ($p = 0.037$).

Table 2. Comparison of equipment present in the Units for the performance of physiotherapists.

Physiotherapist Presence	South (n=1831)			Southeast (n=3291)			Mid – West (n= 415)			Northeast (n= 1641)			North (n= 386)			Brazil (n=7564)		
	No	Yes	p	No	Yes	p	No	Yes	p	No	Yes	P	No	Yes	p	No	Yes	p
Anthropometric measuring tapes in conditions of use?																		
No	147	58	0,39	482	159	0,42	72	17	0,26	191	58	0,11	55	16	0,66	947	308	0,87
Yes	1215	411		2035	615		243	83		997	395		254	61		4744	1565	
Aesthesiometers in conditions of use?																		
No	1118	389	0,72	1209	376	0,82	139	40	0,54	668	251	0,38	130	36	0,53	3284	1092	0,66
Yes	244	80		1308	398		176	60		500	202		179	41		2407	781	
Mattresses in conditions of use?																		
No	989	201	<0,00	1751	396	<0,00	236	50	0,04	953	279	<0,00	266	52	0,00	4195	978	<0,00
Yes	373	268		766	378		79	50		235	174		43	25		1496	895	
Reflex hammers in conditions of use?																		
No	1070	304	<0,00	2148	629	0,00	278	74	0,00	971	296	<0,00	282	61	0,00	4749	1364	<0,00
Yes	292	165		369	145		37	26		217	157		27	16		942	509	
Dumbbells in conditions of use?																		
No	1180	184	<0,00	2106	384	<0,00	266	42	<0,00	974	247	<0,00	279	45	<0,00	4805	902	<0,00
Yes	182	285		411	390		49	58		214	206		30	32		886	901	
Anklets in conditions of use?																		
No	1118	178	<0,00	2111	375	<0,00	268	41	<0,00	990	251	<0,00	280	39	<0,00	4837	884	<0,00
Yes	174	291		406	399		47	59		198	202		29	38		854	989	
Elastic bands in conditions of use?																		
No	1219	216	<0,00	2215	481	<0,00	275	54	<0,00	1017	268	<0,00	274	51	0,03	5000	1071	<0,00
Yes	143	253		302	293		40	46		171	185		35	26		691	803	
TENS/FES in conditions of use?																		
No	1264	207	<0,00	2366	449	<0,00	288	46	<0,00	1025	275	<0,00	279	43	<0,00	5222	1020	<0,00
Yes	98	262		151	325		27	54		163	178		30	34		469	853	
Ultrasound in conditions of use?																		
No																		

Yes	1262	208	<0,00	2370	454	<0,00	288	48	<0,00	1037	276	<0,00	277	43	<0,00	5237	1029	<0,00
	97	261		147	320		27	52		151	177		32	34		454	844	
Positioning rollers in conditions of use?																		
No	1265	260	<0,00	2371	542	<0,00	295	62	<0,00	1084	322	<0,00	290	62	0,00	5305	1248	<0,00
Yes	97	209		146	232		20	38		104	131		19	15		386	625	
Goniometers in conditions of use?																		
No	1308	318	<0,00	2375	674	<0,00	296	76	0,07	1061	341	<0,00	297	65	0,00	5337	1474	<0,00
Yes	54	151		142	100		19	24		127	112		12	12		354	399	

Source: Own elaboration.

As presented in Table 2, in Brazil and in its five regions, there is a greater amount of equipment related to physical therapy practice in UBS where a physiotherapist is present in EqSF, this difference being significant for most of the investigated equipment, except for anthropometric tapes and aesthesiometers ($p > 0.05$). In relation to TENS/FES and Ultrasound, they were available in BHU where a physical therapist was inserted in EqSF ($p < 0.05$).

Table 3. Comparison of the proportions of the presence of materials in the units where the physiotherapist is present between each region and Brazil.

Equipment Presence	South (n=469)			Southeast (n=774)			Mid – West (n=100)			Northeast (n= 453)			North (n= 77)			Brazil (n=1873)	
	No	Yes	p	No	Yes	p	No	Yes	P	No	Yes	p	No	Yes	p	No	Yes
Anthropometric measuring tapes-in conditions of use? N (%)	58 (12,4)	411 (87,6)	0,03	159 (20,6)	615 (79,4)	0,01	17 (17,0)	83 (83,0)	0,99	58 (12,8)	395 (87,2)	0,06	16 (20,7)	61 (79,3)	0,39	308 (16,4)	1565 (83,4)
Aesthesiometers in use condition? N (%)	389 (83,0)	80 (17,0)	0,06	376 (48,6)	398 (51,4)	0,00	40 (40,0)	60 (60,0)	0,00	251 (55,4)	202 (44,6)	<0,00	36 (34,7)	41 (53,3)	0,06	1092 (58,3)	781 (41,7)
Mattresses in conditions of use? N (%)	201 (42,9)	268 (57,1)	0,00	396 (51,1)	378 (48,9)	0,65	50 (50,0)	50 (50,0)	0,74	279 (61,5)	174 (38,5)	0,00	52 (67,5)	25 (32,5)	0,01	978 (52,2)	895 (47,8)
Reflex hammers in conditions of use? N (%)	304 (64,8)	165 (35,2)	0,00	629 (81,2)	145 (18,8)	0,00	74 (74,0)	26 (26,0)	0,88	296 (65,3)	157 (34,7)	0,00	61 (79,2)	16 (20,8)	0,26	1364 (72,8)	509 (27,2)
Dumbbells in conditions of use? N (%)	184 (39,3)	285 (60,7)	<0,00	384 (49,6)	390 (50,4)	0,30	42 (42,0)	58 (58,0)	0,06	247 (54,5)	206 (45,5)	0,34	45 (58,4)	32 (41,6)	0,31	902 (48,2)	901 (51,8)

Anklets in conditions of use? N (%)	178 (38,0)	291 (62,0)	0,00	375 (48,4)	399 (51,6)	0,58	41 (41,0)	59 (59,0)	0,26	251 (55,4)	202 (44,6)	0,00	39 (50,6)	38 (49,4)	0,63	884 (47,2)	989 (52,8)
Elastic bands in conditions of use? N (%)	216 (46,1)	253 (53,9)	<0,00	481 (62,1)	293 (37,9)	0,01	54 (54,0)	46 (46,0)	0,60	268 (59,1)	185 (40,9)	0,46	51 (66,2)	26 (33,8)	0,14	1071 (57,1)	803 (42,9)
TENS / FES in conditions of use? N (%)	207 (44,2)	262 (55,8)	0,07	449 (58,0)	325 (42,0)	0,10	46 (46,0)	54 (54,0)	0,12	275 (60,7)	178 (39,3)	0,01	43 (55,8)	34 (44,2)	0,90	1020 (54,4)	853 (45,6)
Ultrasound in conditions of use? N (%)	208 (44,4)	261 (55,6)	0,04	454 (58,6)	320 (41,4)	0,08	48 (48,0)	52 (52,0)	0,20	276 (60,9)	177 (39,1)	0,02	43 (55,8)	34 (44,2)	0,96	1029 (54,9)	844 (45,1)
Positioning rollers in conditions of use? N (%)	260 (55,5)	209 (44,5)	0,00	542 (70,0)	232 (30,0)	0,09	62 (62,0)	38 (38,0)	0,39	322 (71,0)	131 (29,0)	0,07	62 (80,5)	15 (19,5)	0,01	1248 (66,6)	625 (33,4)
Goniometers in conditions of use? N (%)	318 (67,2)	151 (32,1)	0,00	674 (87,0)	100 (13,0)	0,00	76 (76,0)	24 (24,0)	0,60	341 (75,2)	112 (24,8)	0,12	65 (84,4)	12 (15,6)	0,28	1474 (78,6)	399 (21,4)

Source: Own elaboration.

The comparison of the proportions of the presence of the materials in the units where a physiotherapist is present between each region and Brazil were presented in Table 3. Considering only the UBS where a physiotherapist was inserted in EqSF, the comparison of the percentage of the presence of each equipment between the regions and Brazil identified that, in general, the South Region was more equipped, and the Northeast Region less equipped ($p < 0.05$).

4. Discussion

The physiotherapist's performance in PHC is verified in many countries, such as the Netherlands, Norway, Sweden, United Kingdom, Canada and Spain, in different organizational arrangements, which vary from medical prescription to direct access to this professional (Long, 2019). Its effectiveness is recognized for the reduction of waiting lines for specialized care (Silva, 2017), reduction of financial expenses with vacancies in rehabilitation services (Meneses, 2020), reduction of medical prescriptions (Carvalho, 2017) and time away from work, improvement in pain control and long-term disabilities and development of self-care (Long, 2019).

In Brazil, the insertion of this professional in this level of care is associated with the creation of NASF/AB (Tavares, 2018). However, evidence points out that, even with the broad participation of physiotherapists in these teams, what is seen in the daily life of NASF/AB workers is the challenge of handling a large repressed demand for Physiotherapy services, associated with a large number of people registered with EqSF and the difficulty of access to specialized services (Braghini, 2017). This situation suggests that the NASF/AB is still insufficient for the Physiotherapy demands in Brazilian PHC.

The insertion of the physiotherapist in EqSF is incipient, as verified in this study. A possible explanation for this scenario is the difficulty of municipal financing to expand the minimum teams (Ribeiro, 2015). The conception of PHC based on a reductionist trajectory reflects difficulties in allocating financial resources for this level of care (Mendes, 2018). The federal transfer to fund the costs of EqSF are insufficient and charge the municipalities the counterpart of around 70% of their financing (Mendes, 2018). As presented by Faria and Alves (2015), this is a challenging issue, since, although Brazilian legislation¹⁰ allows the inclusion of "other professional categories", this reality becomes distant.

The Northeast region stood out as the one with the highest proportion of Physiotherapists inserted in the minimum teams. In this region, there was a large investment in consolidating PHC in 2010, and 100% of its municipalities already had at least one EqSF in place (Carvalho, 2019), possibly due to a strategic direction of health actions in regions with more socioeconomic inequalities, low Human Development Index, and in cities with a smaller population size (Moretti, 2016).

The lower insertion of Physiotherapists in the minimum PHC teams in the Northern Brazil does not seem to be an exclusive situation for this professional category. In this region there are the worst indicators for the use of health services, with low availability of professionals and underfunding. Consequently, an insufficient PHC network was established, with a significant concentration of medium and high complexity services in the capitals (Garnalo, 2018)

In addition, as presented by Matsumura *et al* (2018), in this region there is the greatest assistance void of professional physiotherapists registered with the Federal Council for Physical Therapy, corresponding to less than 0.5 physiotherapists per 1000 inhabitants. Regional differences in the distribution of the physical therapy workforce have also been identified in other countries. In the province of Saskatchewan, Canada, a greater concentration of these professionals was identified in large urban centers (Bath, 2015).

In relation to the presence of equipment, most UBS did not have equipment traditionally used in physical therapy care, but neither did they have a professional working in the local EqSF. It was also observed that the equipment, when present, is located in units without a physiotherapist in the minimum teams, indicating that it may be used by other professionals or by physiotherapists inserted in the NASF/AB.

A study related to the training of physiotherapists to work in PHC highlights activities related to territorialization, prevention and promotion actions for specific groups, care and home visits, postural education at school, shared consultations and preparation of TPS as highlights of training and not the use of equipment, indicating the capacity of this professional to operate, with wide possibilities, in units that do not concentrate specialized technology (Ferreira, 2020)

Comparing the regions, the South of Brazil has more equipment in the BHU, although the proportion of physical therapists working outside the NASF/AB in this region is not greater than the national proportion. Tavares *et al* (2018) showed

a high proportion of physiotherapists working in the PHC registered in the National Register of Health Facilities (CNES, in portuguese) in the region, but it does not differentiate whether such performance is incorporated into the NASF/AB, which explains the difference for the result of the present study.

The results are complementary in relation to the insertion of this professional in the NASF/AB and indicates that, even working in the EqSF, the professionals still seek equipment and retain roots of the rehabilitation training. The study by Fernandes *et al* (2016) reinforces, according to the physiotherapists' view, the deficiency in professional training and the non-use of NASF/AB tools during the work process. Such conclusions help to explain the greater concentration of equipment and may indicate that they are being used by NASF/AB physiotherapists, to the detriment of the attributes recommended for this care process. The Northeast region, on the other hand, has a higher proportion of inserted professionals and less equipment, which may indicate professional performance using technologies aimed at PHC, health promotion and disease prevention actions.

Equipment of more specific use by physiotherapists, linked to electrotherapy and thermotherapy, are more present in BHU where the professional is present, outside the NASF/AB team, in most regions. The use of these resources is widespread in specialized care, especially in chronic conditions (Gibson, 2019). Their use in PHC is not common, and most users in pain are referred to the secondary reference service (Silva, 2015). Physiotherapists report that the absence of equipment in PHC can harm their performance at this level and the service's resolution, but the development of a new training program can help to develop skills that minimize this technological dependence for the physical therapist's performance (Lima, 2017).

A literature review in order to analyze the activities developed by physical therapists in the context of Brazilian PHC identified that individual and collective care actions were carried out with a view to both rehabilitation and prevention, positively impacting the population's health and reducing costs. However, physical therapists faced challenges, such as the insufficient number of professionals, the lack of resources and infrastructure, the difficulty of teamwork and the need for changes in professional training (Fonseca, 2016). Ferretti *et al* (2015) point out that an epistemological resignification of Physiotherapy is necessary for acting in PHC, breaking with the curative/rehabilitating paradigm and advancing to the expanded concept of health and comprehensive care. In addition, the small number of professionals in PHC without the proper backing of a physiotherapeutic services network requires reorganization not only at this level of care, but in the entire care network (Tavares, 2018)

A limitation of the present study is related to a greater detail in relation to the actual insertion of physiotherapists. The PMAQ/AB does not detail the performance of this professional with the EqSF nor how the professionals may be using the studied equipment. However, it was elaborated from a research database with national coverage in PHC, which used standardized data collection instruments and procedures that ensure internal and external validity due to the national breadth of information, which can be extrapolated to other countries- with similar realities.

5. Conclusion

The results of the present study can contribute to the managers' awareness of the need to increase the number of physical therapists working in the EqSF, to sensitize physiotherapists about their actions performed in PHC and possible work tools and coherent actions for the PHC context. Therefore, when considering the complexity of physiotherapist's work process in PHC, new methodological approaches should be explored in order to elucidate the insertion of this professional in this level of care, as well as the use of technological resources, hard and/or soft. Therefore, it is expected that new studies in national and international contexts will further stimulate the definitive and equitable insertion of Physiotherapy in PHC, with safe and evidence-based practices. These studies should contemplate the expansion of new nuances in the physiotherapist's work

process, and its results for the population that seeks this service, encouraging its expansion and the investment of health managers in hiring and training this professional.

References

- Barbaza E., Kringos D., Kruse I., Klazinga N. S., & Tello J.E. (2019) Creating performance intelligence for primary health care strengthening in Europe. *BMC Health Service Research*. 19(1):1006. <https://doi.org/10.1186/s12913-019-4853-z>
- Bath B., Gabrush J., Fritzier R., Dickson N., Bisaro D., Bryan K., & Shah T. I. (2015) Mapping the Physiotherapy Profession in Saskatchewan: Examining Rural versus Urban Practice Patterns. *Physiotherapy Canadian*. 67(3): 221–231. <https://doi.org/10.3138/enc.2014-53>
- Braghini C. C., Ferretti F., & Ferraz L. (2017) Physiotherapist's performance in the context of family health support centers. *Fisioterapia em Movimento*. 30(4): 703-713. <http://dx.doi.org/10.1590/1980-5918.030.004.ao05>.
- Carvalho, D. F. F., & Siqueira-Batista, R. (2017) Physiotherapy and Family Health: insertion, work process and conflicts. *Vitalle: Revista de Ciências da Saúde*. 29(2): 135-145. <https://doi.org/10.14295/vitalle.v29i2.6698>
- Carvalho F. C. D., Vasconcelos T. B., Arruda G. M. M. S., & Macena R. H. M. Changes in social indicators of the northeastern region after the implementation of primary health care. (2019). *Trabalho, Educação e Saúde*. 17(2): e0018925. <http://dx.doi.org/10.1590/1981-7746-sol00189>
- Conselho Nacional de Educação. Departamento de Educação Superior. Publicado em CNE / CES 1.210 / 2001, of December 7, 2001. Institui as Diretrizes Curriculares Nacionais para o Curso de Fisioterapia. Diário Oficial da União. Brasília, DF, Brasil, 2001
- Faria L. R., & Alves C. A. (2015) On caring: preliminaries of a comparative study of primary health care in Brazil / Canada. *Saúde e Sociedade*. 24(1):1 – 14. <https://doi.org/10.1590/S0104-12902015000100006>
- Fernandes J. M., Rios T. A., Sanches V. S., & Santos M. L. M. (2016) NASF's tools and practices in health of physical therapists. *Fisioterapia em Movimento*. 29(4): 741-750. <https://doi.org/10.1590/1980-5918.029.004.ao10>
- Ferreira, L. T., Ferreti, F., Teo C. R. P. A., & Pivetta, H. M. F. (2020) Professional training in physiotherapy: primary care practices. *Fisioterapia em Movimento*. 33: e003346. <http://dx.doi.org/10.1590/1980-5918.033.AO46>
- Ferretti F., Nierotka R.P., Braghini C.C., Teo C.R.P.A., Ferraz L., Fanticelli M.L. (2015) Physical therapist insertion in the Family Health Strategy team: the users' view. *Fisioterapia em Movimento*. v. 28, n. 3, p. 485-493. <http://dx.doi.org/10.1590/0103-5150.028.003.AO07>
- Fonseca J.M.A., Rodrigues M.T.P., Mascarenhas M.D.M., Lima L.H.O.(2016) Physical Therapy In Primary Health Care: An Integrative Review. *Brazilian Journal of Health Promotion*. 29(2): 288-294. <http://dx.doi.org/10.5020/18061230.2016.p288>
- Freire L. P. V., Sales W. B., Barbosa D. S., & Moraes J. D. (2020) The duties of the physiotherapist at the Extended Nucleus for Family Health and Primary Care in the city of Lucena-PB. *Archives of Health Investigation*. 34(4): 345- 351. <https://doi.org/10.21270/archi.v9i1.4928>
- Garnelo L., Lima J. G., Rocha E. S. C., & Herkrath F. J. (2018) Access and coverage of Primary Health Care for rural and urban populations in the northern region of Brazil. *Saúde em Debate*. 42(1):81-99. <https://doi.org/10.1590/0103-11042018S106>
- Gibson W., Wand B. M., Meads C., Catley M. J., & O'Connell N. E. (2019). Transcutaneous electrical nerve stimulation (TENS) for chronic pain - an overview of Cochrane Reviews. *Cochrane Database System Review*. <http://dx.doi.org/10.1002/14651858.CD011890.pub3>
- Giovanella L. (2006) Primary health care in European Union countries: organizational configurations and reforms in the 1990s. *Cadernos de Saúde Pública* 22(5):951-963. <https://doi.org/10.1590/s0102-311x2006000500008>
- Lima A. J., Aley N. R. L., Brito G. E. G., Goyatá S. T. L., & Silva S. L. A. Resolutivity of physiotherapy in Primary Health Care (PHC): the perception of physiotherapists. (2017) *Cadernos de Educação, Saúde e Fisioterapia* 4(8):14-22. <https://doi.org/10.18310/2358-8306.v4n8.p14>
- Long J. (2019) European region of the WCPT statement on physiotherapy in primary care. *Primary Health Care Research Development*. 4(20): e147. <https://doi.org/10.1017/S1463423619000811>
- Malta M., Cardoso L. O., Bastos F. I., Magnanini M. M. F., & Silva C. M. F. P. (2010). Iniciativa STROBE: subsídios para comunicação de estudos observacionais. *Revista de Saúde Pública*. 44(3):559-65.
- Massuda A. (2020) Primary health care financing changes in the Brazilian Health System: advance ou setback? *Ciencia & Saude Coletiva*. 25(4):1181-1188. <http://dx.doi.org/10.1590/1413-81232020254.01022020>
- Matsumura E. S. S., Júnior A. S. S., Guedes J. A., Teixeira R. C., Kietzer S. K., & Castro L. S. F. (2018) Geographical distribution of physiotherapists in Brazil. *Fisioterapia e Pesquisa*. 25(3): 309-314. <https://doi.org/10.1590/1809-2950/17027025032018>
- Mendes A., Carnut L., & Guerra, L. D. (2018) Reflexões acerca do financiamento federal da Atenção Básica no Sistema Único de Saúde. *Saúde em Debate*. 42(supl.1): 224-243. <https://doi.org/10.1590/0103-11042018s115>
- Meneses A. S., Silva J. S. M., & Silva L. E. (2020). Financial Perspective on Queuing Regulation for Physiotherapy in Primary Health Care. *SciELO Preprints*. <https://doi.org/10.1590/SciELOPreprints.590>
- Ministério da Saúde. Portaria No. 154 de 24 de Janeiro de 2008. Cria os Núcleos de Apoio à Saúde da Família (NASF). Diário Oficial da União. Brasília, DF, Brasil, 2008. https://bvsm.sau.gov.br/bvs/sau/legis/gm/2008/prt0154_24_01_2008.html.

Ministério da Saúde. Portaria No. 2,436 de 21 de setembro de 2017. Aprova a Política Nacional de Atenção Primária, estabelecendo revisão das diretrizes da organização da Atenção Primária no âmbito do Sistema Único de Saúde (SUS). Brasília, DF, Brasil, 2017. https://bvsms.saude.gov.br/bvs/saudelegis/gm/2017/prt2436_22_09_2017.html.

Ministério da Saúde. Portaria No. 3.124 de 28 de Dezembro de 2012. Redefine parâmetros para associação dos NASF modalidades 1 e 2 às Equipes de Saúde da Família ou Equipes de Atenção Primária e cria o NASF 3, além de outros arranjos. Diário Oficial da União. Brasília, DF, Brasil, 2013. https://bvsms.saude.gov.br/bvs/saudelegis/gm/2012/prt3124_28_12_2012.html.

Ministério da Saúde. Portaria No. 1,645 de 2 de Outubro de 2015. Instaura o Programa Nacional de Melhoria do Acesso e Qualidade da Atenção Básica (PMAQ-AB). Brasília DF, Brasil, 2015. http://bvsms.saude.gov.br/bvs/saudelegis/gm/2015/prt1645_01_10_2015.html.

Moretti P. G. S., & Fedosse E. (2016) Family Health Support Center: Impact on Ambulatory Care Sensitive Conditions. *Fisioterapia e Pesquisa*. 23(3): 241-247. <https://doi.org/10.1590/1809-2950/14662023032016>

Pinto L. F., Soranz D., Ponka D., Pisco L. A., & Hartz Z. M. (2020)40 years of Alma-Ata: Challenges of Primary Health Care in Brazil and in the World. *Ciência & Saúde Coletiva*. 25(4):1178. <http://dx.doi.org/10.1590/1413-81232020254.01012020>

Ribeiro C. D., & Flores-Soares M. C. (2015) Challenges for the insertion of the physiotherapist in primary care: the view of managers. *Revista de Salud Pública*. 17 (3): 379-393 <http://dx.doi.org/10.15446/rsap.v17n3.44076>

Sousa P. H. C., Pinheiro D. G. M., Arruda G. M. M. S., & Coutinho B. D.(2020) From the challenges to the overcoming strategies of the NASF physiotherapist: a look from the resident. *Bahia Journal of Public Health*. 21(1): 20-27. <https://doi.org/10.22278/2318-2660.2018.v42.n4.a2795>.

Silva G. G., & Sirena S. A. (2015) Profile of referrals to physiotherapy by a Primary Health Care service. *Epidemiologia e Serviços de Saúde*. 24(1):123-133. <http://dx.doi.org/10.5123/S1679-49742015000100014>

Silva S. L. A., Aley N. R. L., Lima A. J., & Almeida A. P. (2017) Proposal for an eligibility protocol and referral to a Physiotherapy service in a Municipal Health Care Network. *Revista Científica CIF Brasil*. 7(7):12-26.

Tavares L. R. C., Costa J. L. R., Oishi J., & Driusso P. (2018) Insertion of physiotherapy in primary health care: analysis of the national registry of health establishments in 2010. *Fisioterapia & Pesquisa*. 25(1):9-19. <http://dx.doi.org/10.1590/1809-2950/15774625012018>

World Confederation For Physical Therapy. Primary Health Care and Community Based Rehabilitation: Implications for physical therapy based on a survey of WCPT's Member Organisations and a literature review. London, UK: World Confederation For Physical Therapy, 2003. <http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=CF934D125CA64DD420B7F3A9E2C8DF8D?doi=10.1.1.126.9788&rep=rep1&type=pdf>.