

# Profile of Sports Physiotherapy in colleges and universities in Brazil

*Perfil da Fisioterapia Esportiva nas Instituições de Ensino Superior do Brasil*

*Perfil de la Fisioterapia Deportiva en las Instituciones de Enseñanza Superior del Brasil*

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**ABSTRACT** | The proceedings of the First Brazilian Forum of Sports Physical Therapy Professors describe guidelines to standardize education in undergraduate and graduate programs in relation to the teaching of Sports Physical Therapy in Post-Secondary Institutions (PSI). The aim of this study was to describe the profile of Sports Physical Therapy programs in Brazilian PSIs. A cross-sectional study was conducted from January to October, 2011. Through a search on the e-MEC (Ministry of Education and Culture) database, 439 institutions that offer undergraduate Physical Therapy programs were identified. Subsequently, we collected information contained in the pedagogical planning of these PSIs, specifically about the existence or absence of the discipline of Sports Physical Therapy, workload, and practicum. A questionnaire was sent to the coordinators of 33% of the PSIs that offer the discipline of Sports Physical Therapy. This subject is offered in 56% of the Brazilian PSIs that have Physical Therapy programs, it is mandatory in 97% of them and, in 62%, the content is offered together with another discipline. Based on the answers to the questionnaires, 31% of the programs have a total discipline workload ranging from 30 to 45 hours per semester, 50% of the programs offer practicum, and only 20% of the PSIs offer graduate programs in the area. We also investigated the professors' schooling: 24% of them are specialists, 31% have a Master's degree, only 3% have a PhD degree, and 34% obtained the title of specialist member from the National Sports Physical Therapy Society (SONAFE). We observed that the Sports

Physical Therapy programs in Brazilian PSIs are not in accordance with the guidelines that regulate teaching in undergraduate and graduate courses in the area.

**Keywords** | physical therapy specialty; sports; education.

**RESUMO** | O I Fórum Nacional dos Docentes da Fisioterapia Esportiva descreve diretrizes para normatização do ensino de graduação e pós-graduação referente à Fisioterapia Esportiva, as quais fundamentam orientações para Instituições do Ensino Superior (IES). O objetivo do estudo foi descrever o perfil da disciplina/do módulo de Fisioterapia Esportiva nas IES do Brasil. Foi realizado um estudo transversal entre os meses janeiro a outubro de 2011 e buscou-se no sistema de informação e-MEC a identificação das 439 instituições que ofertam o curso de graduação em Fisioterapia. Posteriormente, houve um levantamento de informações nos planos pedagógicos dessas IES, observando-se grade curricular do curso, especificamente a existência da disciplina/do módulo de Fisioterapia Esportiva, carga horária e estágio supervisionado. Em seguida, foi aplicado um questionário aos coordenadores de 33% das IES que ofertam a disciplina/o módulo de Fisioterapia Esportiva. A disciplina de Fisioterapia Esportiva é ofertada em 56% das IES brasileiras com graduação em Fisioterapia; destas, 97% oferecem em caráter obrigatório e em 62% o conteúdo é ofertado unido a outra disciplina. Com base na resposta aos questionários, 31% dos cursos apresentam carga horária total da disciplina entre 30 a 45 horas/aula, 50% oferecem

Study conducted at the Laboratory for Analysis of Human Movement, Universidade Federal do Ceará (UFC) – Fortaleza (CE), Brazil.

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estágio supervisionado e apenas 20% das instituições oferecem pós-graduação *lato sensu* na área. Foi investigada também a titulação dos professores ministrantes: 24% deles são especialistas, 31% são mestres, apenas 3% são doutores e 34% obtiveram o título de sócio-especialista da Sociedade Nacional de Fisioterapia Esportiva (SONAFE). Observa-se que a Fisioterapia Esportiva nas IES do Brasil ainda não está de acordo com as diretrizes que normatizam o ensino de graduação e pós-graduação na área.

**Descritores** | fisioterapia; esportes; educação.

**RESUMEN** | El I Foro Nacional de los Docentes de Fisioterapia Deportiva describe directrices para normatización de la enseñanza de graduación y postgrado referente a la Fisioterapia Deportiva, las cuales fundamentan orientaciones para Instituciones de Enseñanza Superior (IES). El objetivo del estudio fue describir el perfil de la disciplina/del módulo de Fisioterapia Deportiva en las IES del Brasil. Fue realizado un estudio transversal entre los meses de enero a octubre de 2011 y se buscó en el sistema de información e-MEC la identificación de las 439 instituciones que ofertan el curso de graduación en Fisioterapia. Posteriormente, hubo un levantamiento de

informaciones en los planes pedagógicos de esas IES, observándose el programa curricular del curso, específicamente la existencia de la disciplina/del módulo de Fisioterapia Deportiva, carga horaria y pasantía supervisada. Enseguida, les fue aplicado un cuestionario a los coordinadores de 33% de las IES que ofertan la disciplina/el módulo de Fisioterapia Deportiva. La disciplina de Fisioterapia Deportiva es ofertada en 56% de las IES brasileñas con graduación en Fisioterapia; de estas, 97% la ofrecen en carácter obligatorio y en 62% el contenido es ofertado unido a otra disciplina. Basándonos en la respuesta a los cuestionarios, 31% de los cursos presentan carga horaria total de la disciplina entre 30 a 45 horas/clase, 50% ofrecen pasantía supervisada y apenas 20% de las instituciones ofrecen postgrado *lato sensu* en el área. Fue investigada también la titulación de los profesores actuantes: 24% de ellos son especialistas, 31% son másters, apenas 3% son doctores y 34% obtuvieron el título de socio especialista de la Sociedade Nacional de Fisioterapia Esportiva (SONAFE). Se observa que la Fisioterapia Deportiva en las IES del Brasil aun no está de acuerdo con las directrices que regulan la enseñanza de graduación y postgrado en el área.

**Palabras Clave** | fisioterapia; deportes; educación.

## INTRODUCTION

Physical Therapy was regulated as a profession on October 13, 1969 with the decree 930/69. It was then defined that, in a profession that requires post-secondary education, it is incumbent upon physical therapists the use of specific methods and techniques that have the purpose of restoring, developing, and maintaining an individual's physical capacity<sup>1</sup>. However, it was the Code of Ethics in Physical Therapy and Occupational Therapy, sanctioned by the Federal Council of Physical Therapy and Occupational Therapy (COFFITO), in resolution number 10, the document that established references to the work object of physical therapists and occupational therapists. Professionals in Physical Therapy must assist individuals under their care, participating in health promotion, treatment, and recuperation in addition to utilizing available technical and scientific knowledge with the purpose of preventing or alleviating human suffering and avoiding death. Furthermore, physical therapists must participate in community assistance programs in the national and international spheres<sup>2,3</sup>.

At that moment, a collective movement was initiated with the purpose of elaborating new foundations and curricular guidelines for undergraduate Physical Therapy programs, which were subsequently

developed by the Committee of Specialists in Physical Therapy and Occupational Therapy Education (CEEFTO). However, the national curricular guidelines for the aforementioned undergraduate programs were approved by the Post-Secondary Collegiate of the National Education Council/ Post-Secondary Education Chamber in 2002 through resolution number 4. According to the guidelines, post-secondary institutions can organize their programs in a diversified manner, and implement contents and technologies that expand the formation of Physical Therapy students, but must always follow what is proposed in the guidelines, thus guaranteeing the professionals' generalist formation<sup>4</sup>.

Over the course of history, these processes have contributed to the professional formation of physical therapists who have unrestricted autonomy to make clinical decisions and who are able to provide direct, safe and efficient assistance to patients with musculoskeletal conditions at a reduced cost for the health system and employers<sup>5</sup>.

The formation of physical therapists involved in the care of patients in sports must attend to specific competencies and attributions, such as dexterity to act in the prevention of lesions, emergency assistance, and functional rehabilitation, thus guaranteeing an individual's good physical shape prior to his/her return to the practice of sports<sup>6,7</sup>.

The National Sports Physical Therapy Society (SONAFE) has the purpose of promoting technical and scientific development of the physical therapists who are part of it, aiming at implementing the quality of operational procedures and routines in all spheres of Sports Physical Therapy, in addition to contributing in guiding professional formation in analogous areas<sup>8</sup>.

In order to achieve these aims, SONAFE carried out the First National Forum of Sports Physical Therapy Professors on November 03, 2005 in the city of Londrina, Paraná. In this Forum, guidelines for the standardization of undergraduate and graduate education concerning the area of Sports Physical Therapy were created. They were named "Letter of Londrina" and are founded on guidelines for physical therapists who are also professors and program coordinators<sup>8</sup>.

Under resolution 337, of November 08, 2007, COFFITO recognizes the Sports Physical Therapy specialty and enables its practice. The recognition of this specialty took into consideration the proceedings from the Letter of Londrina and from the 2<sup>nd</sup> National Forum of Professional Policies in Physical Therapy and Occupational Therapy, carried out in the city of Belo Horizonte (Minas Gerais), in November 2006<sup>9</sup>.

The aim of the present study was to describe the profile of the discipline/module of Sports Physical Therapy in post-secondary institutions in Brazil, and to investigate if they are in accordance with SONAFE's guidelines.

## METHODOLOGY

### Sample

We conducted a transversal study with data collected from January to October, 2011. The participants were post-secondary institutions that offer Physical Therapy programs in Brazil and that were duly registered in the Ministry of Education and Culture (MEC).

### Procedures

We started the study by identifying the 439 institutions that offer Physical Therapy programs with a search in the electronic database of the Ministry of Education and Culture (e-MEC). After this, we searched for information on the pedagogical planning of the 439 PSIs,

observing the program curriculum, specifically the existence of the Sports Physical Therapy discipline/module, workload (hours), whether the discipline/module was mandatory, and supervised practicum. The data found on e-MEC were compared to the pedagogical planning of the Physical Therapy programs and to the information provided by the program coordinators in order to minimize a possible incompatibility of information.

Next, we sent a structured questionnaire to all Physical Therapy undergraduate program coordinators of the PSIs that offered Sports Physical Therapy as a discipline/module. This questionnaire was applied by e-mail and/or telephone.

### Statistical analysis

The data were analyzed with the software *Statistical Package for Social Sciences* (SPSS), version 15.0. We used descriptive statistics with analysis of frequency and hypotheses association test through Pearson's  $\chi^2$  for the relation between the data and course distribution by region in Brazil. The significance level adopted was 5% ( $p < 0.05$ ).

## RESULTS

Upon analysis of the data found on e-MEC, we observed a disproportionate distribution of Physical Therapy programs in Brazil's regions, considering that 44.3% of the programs are located in the southeast region, followed by the northeast with 23.4%, and the south with 16.6%. The Midwest and the north regions have the low proportions of 9.8 and 5.9%, respectively ( $p = 0.001$ ).

The state of São Paulo comes to the forefront in this aspect, given that it presents an elevated concentration of programs. On its own, this state surpasses the total sum of Physical Therapy programs in all states of the north and Midwest regions. The distribution of the undergraduate Physical Therapy programs by state is demonstrated in Figure 1.

Following the analysis of syllabi and pedagogical planning, we observed that the Sports Physical Therapy discipline/module was offered in 56% (248) of the Brazilian PSIs that have undergraduate programs in Physical Therapy. The distribution of the Physical Therapy programs that offer Sports Physical

Therapy in their curricula is displayed, by state, in Figure 2 ( $p=0.003$ ).

When separating the teaching of Sports Physical Therapy between public and private institutions, we observed that the majority of the PSIs are private (90.2%), and that 61.2% of them offer the discipline, while only 29.4% of the public PSIs (municipal, state, and federal) proceed in the same manner.

Following the analysis of the 248 PSIs that offer Sports Physical Therapy as a discipline, we observed that the offer is mandatory in 97% of the curricula investigated, and that it is elective in only 3% of them, as shown in Figure 3B. Nevertheless, after evaluating the allocation of Sports Physical Therapy contents in the syllabi, we verified that 38% of the programs present the specificities of this discipline

in their curricula. In other words, the majority of the PSIs minister Sports Physical Therapy contents in conjunction with others, such as Trauma and Orthopedics Physical Therapy and/or Exercise Physiology (Figure 3C).

The structured questionnaire was sent to all the coordinators of the 248 undergraduate Physical Therapy programs that presented the discipline/module of Sports Physical Therapy in their curricula. However, only 82 (33%) returned it properly filled out.

In regards to the offer of supervised practicum, we verified that 50% of the PSIs require it in this specialty area. We also observed that 37% of the PSIs present extension programs in the area. In addition, only 20% of the institutions offer graduate programs in Sports Physical Therapy (Figure 3D–F).

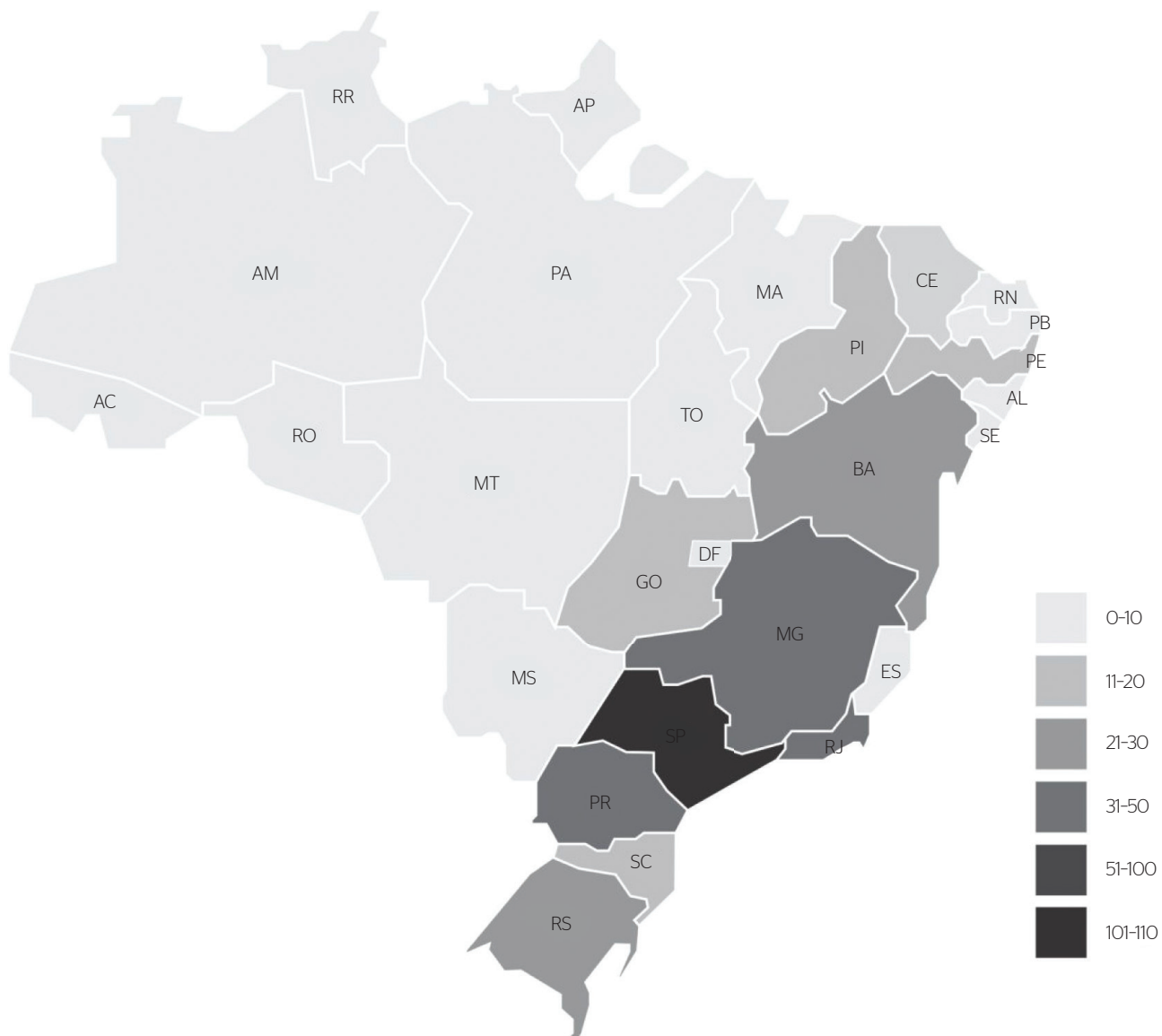


Figure 1. Distribution of the quantity of undergraduate Physical Therapy programs by State

Based on the answers in the questionnaire, it was registered that 78.1% of the programs have a total discipline/module workload of less than 80 hours per semester, and the majority offers the discipline/module with workloads that range from 40 to 60 hours per semester (Figure 4).

After examining the titles of the professors that teach the Sports Physical Therapy discipline/module, we observed that 53% are MScs, 40.8% are specialists, and 6.7% have PhDs. We also verified that 33% of these professors obtained the title of specialist member from SONAFE (Figura 3A). The distribution of professors with a specialist title, given by SONAFE, is shown by state in Figure 3.

## DISCUSSION

Interpreting the profile of Sports Physical Therapy programs can contribute to the understanding of the structures as well as the processes of professional formation of physical therapists who act in the area of sports. The profile of Sports Physical Therapy programs in the PSIs of Brazil shows how the education of those who may become professionals in the area of sports is characterized<sup>10</sup>.

The distribution of Physical Therapy programs throughout the regions of Brazil was revealed as irregular and disproportionate, given that the southeast region presents a high concentration of programs, while the

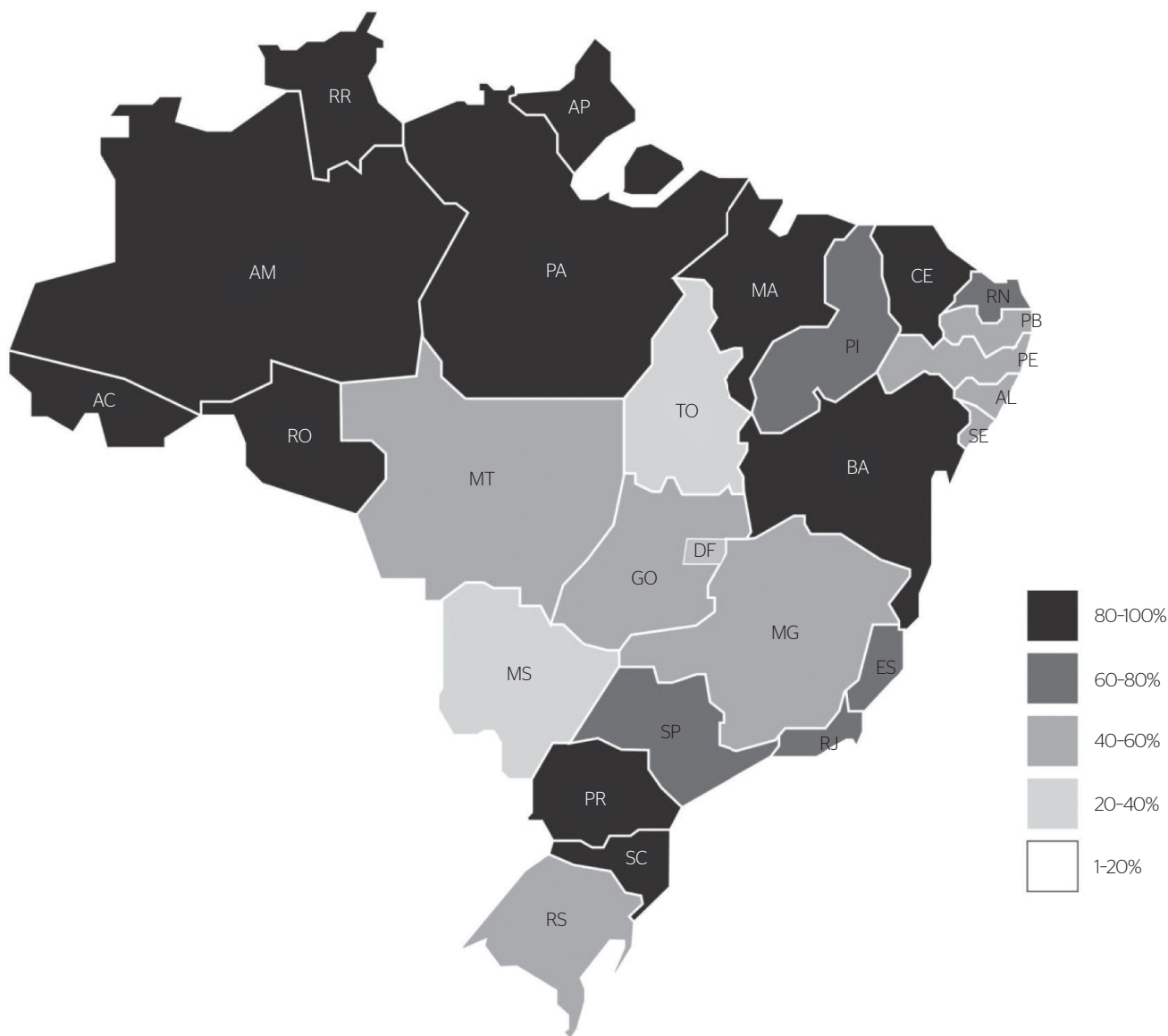


Figure 2. Percentage of the distribution of undergraduate Physical Therapy programs that offer Sports Physical Therapy as part of the curriculum

north and Midwest regions have significantly less programs in this area. The haphazard expansion of Physical Therapy programs worsened with the stagnation of public PSIs and the incentive to private institutions<sup>11</sup>.

The haphazard spreading of Physical Therapy programs is reflected on the formation of professionals in

this area, and, consequently, on the constitution of a solid foundation for the development of the area of Sports Physical Therapy. This condition is worsened by the absence of Sports Physical Therapy contents from almost half of the pedagogical planning documents of the Physical Therapy programs in Brazil, given that the

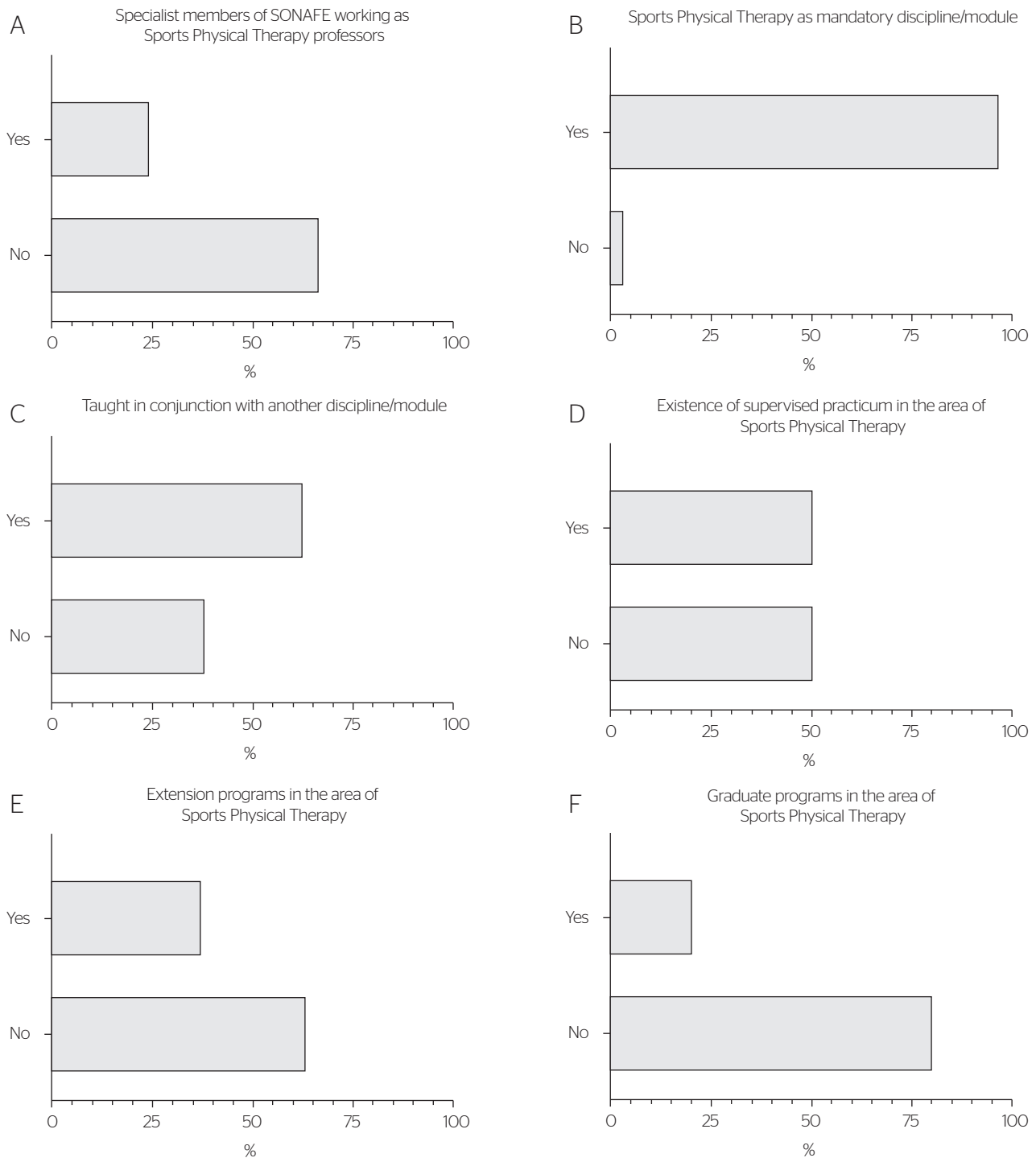


Figure 3. (A) percentage of specialist members of the National Sports Physical Therapy Society (SONAFE) who are professors of Sports Physical Therapy; (B) percentage of the number of Post-Secondary Institutions (PSI) that offer Sports Physical Therapy as mandatory content; (C) percentage of the quantity of PSIs that offer Sports Physical Therapy in conjunction with another discipline; (D) percentage of the quantity of PSIs that require supervised practicum in the area of Sports Physical Therapy; (E) percentage of the quantity of PSIs that offer extension programs in the area of Sports Physical Therapy; (F) percentage of the quantity of PSIs that offer graduate programs in the area of Sports Physical Therapy

present results display the current scenario of Sports Physical Therapy in post-secondary education, where 44% of all PSIs do not offer the discipline/module of Sports Physical Therapy.

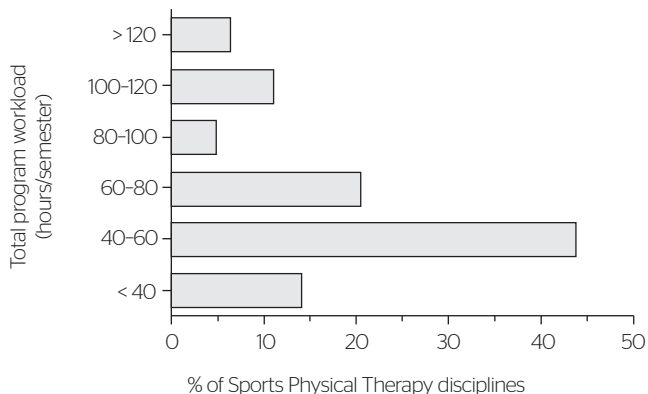


Figure 4. Total workload (hours/semester) offered in the Sports Physical Therapy disciplines/modules

The imbalanced development of Physical Therapy in Brazil reveal negative aspects in the assistance offered to the population, such as in the specific case of athletes and sports practitioners, due to the lack of professionals in some locations, as in the north region for instance, and to corporative divergences in the regions with lower concentration of professionals, as it is the case with the southeast<sup>11</sup>.

The concern about the imbalanced development of Physical Therapy was demonstrated in a study conducted with English physical therapists who worked for soccer clubs and had their clinical autonomy frequently threatened. One of the main causes pointed to justify this situation was the fragility of the professionals' formation in the specific areas in which they acted<sup>12</sup>.

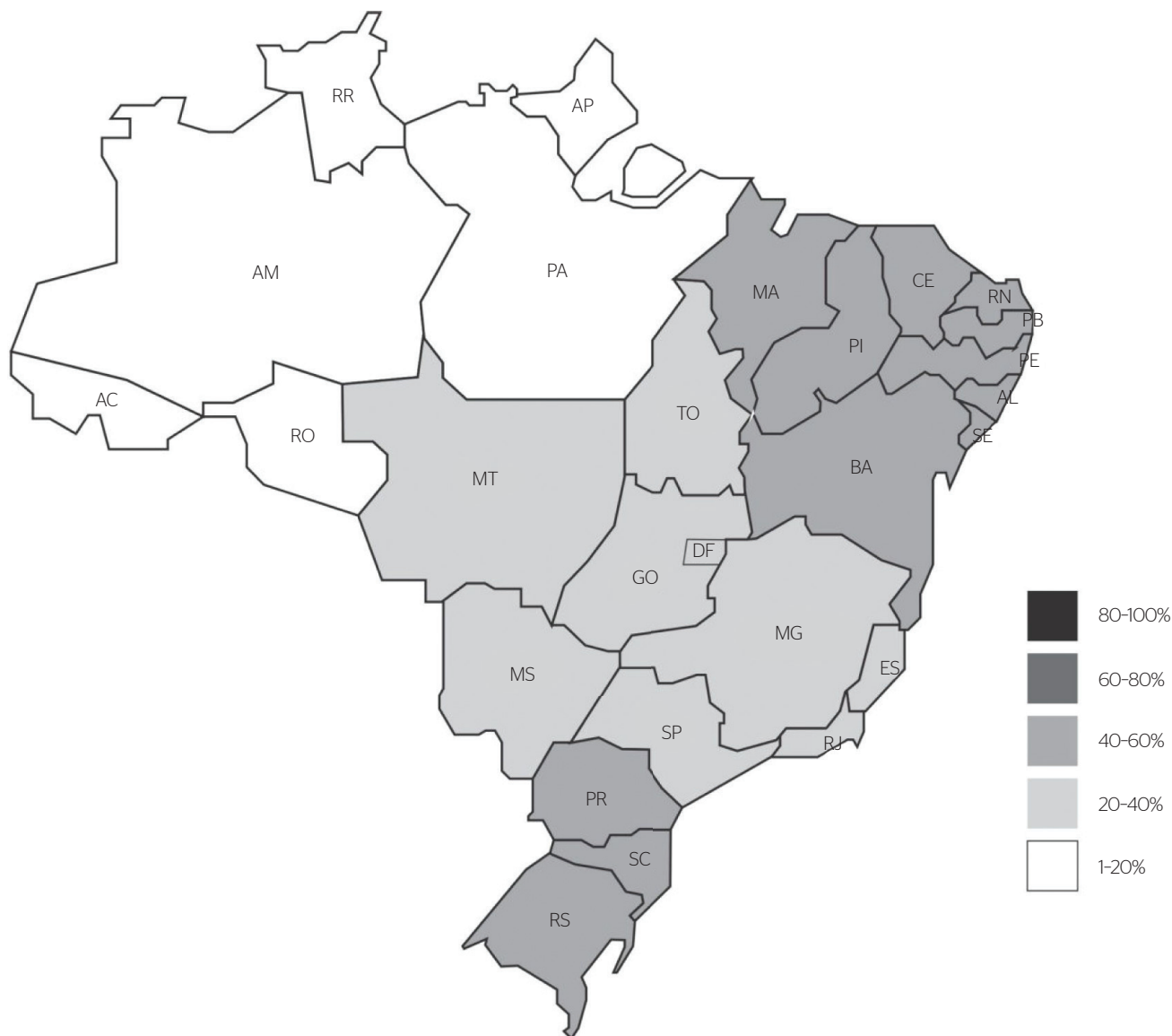


Figure 5. Distribution of the percentage of professors with the title of specialist member given by the National Sports Physical Therapy Society (SONAFE)

The imbalance in the offer of the discipline of Sports Physical Therapy is also found in public PSIs, where less than one third of the programs include this content in their syllabi.

The content is mandatory in the extraordinary majority of the PSIs that offer Sports Physical Therapy as part of their curricula. However, what is noteworthy is the low number of programs that offer the content as optional. It is possible to observe the existence of rigid and previously established curricula instead of flexible programs in which the components relate to one another according to the content exposed, as it is proposed by the integrated curriculum model<sup>13</sup>.

Considering that the generalist formation of physical therapists during their undergraduate years is vital, the identification of optional contents in fundamental and potential areas of specialization in the curricula contributes to the fortification of the profession, and to the improvement of the professionals' influence in the health sector and in the community in general<sup>14</sup>.

Through the Letter of Londrina, the National Sports Physical Therapy Society suggests the naming of the discipline/module as Sports Physical Therapy, with the integration of curricular contents. However, only 38% of the PSIs offer specific Sports Physical Therapy discipline/modules; in other words, the majority of the programs teaches the contents of the discipline/module in conjunction with other subjects. In many situations, this finding can reduce the workload that should be specific to the discipline, and interfere with the process of teaching and learning Sports Physical Therapy contents and the anchorage of other knowledge areas, such as Exercise Physiology, Training Principles, Ethics and Humanization, among several others<sup>15</sup>.

The Letter of Londrina states that the module must have a minimum workload of 80 hours and a maximum workload of 120 hours per semester. However, in the present study, we observed workloads that range between 40 and 60 hours per semester in the majority of PSIs. The Letter suggests, furthermore, that the incorporation of the content offered in Sports Physical Therapy disciplines/modules be concomitant or subsequent to the contents of Functional Trauma and Orthopedics Physical Therapy in order to enable the vertical integration of the contents<sup>15</sup>.

Half of the PSIs that have Sports Physical Therapy contents in their pre-professionalizing cycle also offer curricular practicum in Sports Physical Therapy. However, SONAFE establishes the guidelines

regarding supervised practicums and states that these should occur either in the last year or in the last two semesters of the undergraduate programs, and that their workload must be proportional to other practicums so as to allot 60% of the time to curative care and 40% to prevention and emergency care in sports. The nonexistence of a practicum can disrupt a future professional's autonomy, given that it allows the student to participate in real situations that require clinical thinking and professional responsibility<sup>16</sup>.

The experience of having access to clinical supervision was described from a positive viewpoint by Canadian undergraduate Physical Therapy students. The results of this Canadian study solidify the importance of continuously encouraging and developing clinical practicums and exchanges as a tool for educational experiences which can, in turn, potentiate the formation of physical therapists by focusing on clinical actions<sup>17</sup>.

In the present study, we also investigated the quantity of PSIs that have extension programs in the area and verified that only 37% of the programs offer them. These extension programs are extremely important in academic life, because they allow for the development of educational and assistance initiatives that benefit the population that practices physical activities. It also encompasses teaching and research, which enriches academic experiences even more, in addition to being an exercise of mutual contribution in which students, professors, PSIs, and communities are involved<sup>18</sup>.

Only 20% of the PSIs offer graduate programs in the area of Sports Physical Therapy, which can be directly related to the large quantity of specialist professionals graduated in similar areas other than Sports Physical Therapy. The small number of PSIs that do not offer graduate programs corroborate the results of a study in which the profile of Brazilian professionals who work with Sports Physical Therapy was described. The sample included 49 physical therapists who acted directly with professional athletes, and the authors pointed the necessity of investing in the specific formation of sports physical therapists, aiming at a better specialization in the area of sports<sup>19</sup>.

The schooling of the professors who teach Sports Physical Therapy as a discipline/module is considered moderate, considering that the majority has Master's degrees, followed by specialists, and a minority that has PhDs. However, in the present study, we did not take into consideration the concentration area and the programs that formed these professors. Nevertheless, in the last decade, there was an extraordinary increase



in the number of MSc and PhD researchers graduated in Physical Therapy in Brazil, although there is a wide variety of areas, and there is frequently no relation between the area and the object of study of physical therapists<sup>20</sup>.

We found that only one third of the Sports Physical Therapy professors obtained the title of specialist member from SONAFE. This reduced number of Sports Physical Therapy professors who are specialist members of SONAFE does not coincide with the guidelines stated in the Letter of Londrina. The approximation with this institution can facilitate the process of continuous formation of these professors. For these professionals, continuous education is important, as it keeps them updated on new theoretical and practical developments, thus preventing them from becoming obsolete professionals<sup>20</sup>. Proof of practical experience in specific study areas is also important.

The discussion and the debate about specialization are integrated stages in the development of a career path for physical therapists and in the growth of this profession. Specialization aids in guiding research and the development of new ideas within the practice of Physical Therapy, thus prompting the continuous evolution of the profession<sup>14</sup>.

The description of the profile of Sports Physical Therapy programs can help in understanding the reality of the professionals available in the market and also contribute to the planning of strategies that can improve the teaching of Physical Therapy in Brazil. However, other studies must be encouraged, with analyses of the programs and contents of the modules, of their allocation within the curriculum, and workload, with clear distinction between theoretical and practical workload, among others. We suggest that theoretical and practical Sports Physical Therapy contents are offered as optional in PSIs as a strategy to integrate this content into the curriculum of Physical Therapy programs as soon as possible.

## CONCLUSION

The profile of Sports Physical Therapy programs in Brazilian PSIs is not in accordance with the guidelines proposed by the National Sports Physical Therapy Society, which suggest offering Sports Physical

Therapy disciplines in PSIs, workload between 80 and 120 hours per semester, professors who are specialists in Sports Physical Therapy, and provision of practicum and extension programs. In addition, the offer is lower in public PSIs.

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