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PHYSIOTHERAPIST TRAINING AND INTENSIVE CARE DURING THE SARS-COV-2 PANDEMIC: AN EXPLORATORY STUDY

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ABSTRACT

Objective: the objective was to outline the professional profile of physiotherapists working in intensive care during the pandemic and to analyze how well their undergraduate courses met the needs of patients with COVID-19 hospitalized in Intensive Care Units (ICUs). Method: the study was exploratory and data were collected through an electronic instrument, containing closed and objective questions. The study included 19 physical therapists who worked, between March 2020 and March 2022, in ICUs in the care of patients infected with COVID-19, from public and private hospitals located in the region of the Regional Health Department (DRS) IX of the state of São Paulo. Data analysis was performed by statistical study using the "Microsoft Excel" program. Results: it was possible to observe that in the training of physiotherapists, there is a very large divergence in relation to the fulfillment and durability of internships in the area of cardiorespiratory and that the professionals had a postgraduate degree in the specific area and previous experience. It was possible to identify weaknesses in their training. Conclusion: the undergraduate course in physiotherapy partially met the needs of the labor market during the pandemic. The National Curriculum Guidelines (DCNs) do not ensure equity in the implementation of the different curricula and thus the training of professionals does not respond, in a way, to the demands of the services of the Unified Health System. Specific knowledge of the area is required after completing graduation to work in intensive care.

Keywords: Pandemic. Coronavirus Infections. Physiotherapy. Curriculum. Intensive Care.

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INTRODUCTION

The Severe Acute Respiratory Syndrome - Coronavirus - 2 (SARS-CoV-2) pandemic was made official by the World Health Organization (WHO) on March 11, 2020, and the first reported cases of the disease were in China, in December 2019, resulting from an outbreak of pneumonia of unknown cause1,2.

Factors such as the lack of scientific knowledge about the new coronavirus, its high speed of dissemination, and high mortality rate in vulnerable populations have generated uncertainties about the strategies to cope with the pandemic in different parts of the world3.

In Brazil, in the face of sudden changes and growing demands, the Unified Health System (SUS) collapsed. In all sectors, a series of difficulties were experienced in the service offered to the general population and, in particular, to individuals affected by the virus and its consequences, but mainly in urgent and emergency units and intensive care units (ICU). In this context, it is important to know what Coronavirus Disease – 19 (COVID-19) is, to understand what the SUS is, its guidelines and scopes, as well as how and where health professionals are inserted in this system, especially physiotherapists, who are the focus of this research.

It is known that COVID-19 is a respiratory disease, resulting from the new virus of the Coronavirus family, SARS-CoV-2. This virus, when in contact with humans, causes the disease called COVID-194. It is a severe acute respiratory infection. Its symptoms can range from mild, similar to that of a common cold, to severe, such as severe viral pneumonia, which leads to Acute Respiratory Distress Syndrome (ARDS), which is potentially fatal2.

The SUS was created through the Federal Constitution of 1988, with guidelines to ensure equal access to all, universally and free of charge. Its regulation was established by Law No. 8080, article 196 of the Federal Constitution, on September 19, 19905,6.

Today, it is considered the largest health system in the world, serving more than 190 million people. More than 80% of them depend exclusively on this public service network for any type of health care5,6.

Ordinance 4,279 of December 30, 20107, defines the organization of the Health Care Network in the SUS and the levels of care: primary, secondary and tertiary.

This escalation organizes the treatments and services offered by the SUS, which follow the guidelines determined by the WHO, with the objective of risk prevention, promotion, restoration and maintenance of health for all citizens, following the principles of universality of access, integrality of care, equity of care, decentralization of management and social participation5.

Primary Health Care (PHC) is the individual/user's gateway to the SUS. Most health problems can be solved in primary care. When not, the cases are then referred for treatment in specialized care, which are the secondary and tertiary levels of the system7.

In primary care, there are segments such as the Basic Health Units (UBS), the Family Health Strategy (ESF) and the Family Health Support Center (NASF)[8,9]. All of these, regimented according to their respective ordinance8,9. Secondary care is linked to medium complexity, while tertiary care is linked to high complexity10.

The high complexity level, called tertiary, has large hospitals and university hospitals, as well as Santas Casas and teaching and research units. In them, procedures that require greater technology and costs are performed, such as ICU beds and surgical centers, for example. They receive all care that cannot be resolved in primary and secondary care7,8.

The physiotherapist professional is inserted in the SUS from primary to tertiary care. It works in the basic network, in medium and high complexity services, at the outpatient and hospital levels8,9.

In high complexity, this professional works with the multidisciplinary team in both emergency and intensive care units, where he leads an early, targeted and specialized intervention in life-critical situations, especially with ideal ventilatory assistance and prophylaxis of morbidities. In the care of a critically ill patient, the physiotherapist is seen and recognized in the vast majority of countries as an essential health professional in the integration of the multidisciplinary team of urgent and emergency care and in the ICU. Its role is involved in the care of patients with acute, subacute, and chronic dysfunctions of the respiratory system and in the prevention and treatment of sequelae of immobility11.

In the COVID-19 pandemic scenario, since the virus mainly affects the airways4, the work of physiotherapists who work directly with respiratory pathologies stands out. Thus, the role of the intensive care physiotherapist and the multidisciplinary team for the qualified and safe care of the patient is evident.

In view of this, it reflects on the breadth of training, relating graduation to the performance of the physiotherapist inserted in ICUs, during the COVID-19 pandemic.

OBJECTIVE

To analyze how much the graduation of the physiotherapist working in the market met the needs of patients with COVID-19 admitted to the ICU. To describe the profile of the physical therapist working in ICUs during the COVID-19 pandemic.

METHOD

STUDY DESIGN

This was an exploratory study, with a cross-sectional study, with a quantitative approach.

POPULATION

Physical therapists who worked in the care of individuals infected by SARS-CoV-2, in ICUs, during the Coronavirus-19 pandemic (between March 2020 and March 2022), in fixed hospitals of the public and private network, as well as field hospitals located in an area related to any of the 62 municipalities linked to the Regional Health Department (DRS) IX of the state of São Paulo, participated in the study. Brazil, and that they agreed to sign the Informed Consent Form (ICF) and were willing to voluntarily answer the questionnaire.

Each professional was approached directly, without the establishment of any institutional link.

LOCATION

The study took place in the central-west region of the state of São Paulo and involved physiotherapists who worked in DRS IX of the state, which covers 62 municipalities belonging to the micro-regions of Marília, Assis, Ourinhos, Tupã and Adamantina and serves a population of approximately 1.2 million inhabitants. The dissemination of the survey and data collection took place through digital media, on the *Google forms* platform. The art was shared on *Facebook*, *Instagram* and *WhatsApp groups* linked to collectives of physiotherapist professionals in the region. The *link* was available for access and participation between August 2022 and January 2023.

SELECTION CRITERIA

Physical therapists who worked in ICUs during the pandemic and who had treated individuals infected with SARS-CoV-2 and who agreed with the ICF and responded to the available instrument were included in the research.

Physical therapists with an undergraduate degree outside Brazil, who did not work during the SARS-CoV-2 pandemic, or who worked during the pandemic, but not in the ICU, were not included in the study.

DATA COLLECTION

The data were collected by the researcher herself through a previously prepared electronic collection instrument. The instrument consisted of four questions to identify and characterize the participant's profile, followed by eleven closed and objective questions. It was applied in a pilot study, which had ten participants, who were physiotherapists who worked outside the scope of DRS IX. Afterwards, for greater textual clarity of the items, the instrument was submitted to the appreciation of three judges (physiotherapists with PhDs and professors in higher education). There was agreement regarding the pertinence and clarity of the questions and for greater coverage of the questions in relation to the object of study, the adjustments suggested by the judges were accepted.

DATA ANALYSIS

To characterize the interviewees, a statistical study of absolute and relative frequency was carried out using the "*Microsoft Excel*" program. As well as for the objective aspects of the questions of the data collection instrument.

The findings were discussed based on the literature and in line with the objectives of the study in order to dialogue with the quantitative findings.

ETHICAL ASPECTS

Measures for the protection of privacy were exposed to the participants, considering the ethical aspects of research involving human beings. In compliance with resolutions No. 466/128 and No. 510/169 of the National Health Council, upon receipt of the ICFs, the participants were informed about their total autonomy and security to disconnect from the research at any time without any type of harm.

The project was approved and received the Substantiated Opinion, number 5,406,752 of May 13, 2022 from the Research Ethics Committee (CEP) of FAMEMA.

RESULTS

In total, 19 professionals participated and responded to the survey. It was possible to observe that there was a predominance of female participants, being 89.5% of the total, with ages predominantly between 25 and 26 years. And, of these professionals, 63.15% worked in the city of Marília-SP

Regarding professional training and experience, it could be observed that all of them had at least one year of training before working in the pandemic. All participants mentioned in their training some type of postgraduate degree already completed, be it specialization,

master's or doctorate. And, 94.7% of the participants indicated a postgraduate degree in the area of intensive care.

Regarding work experience in the intensive care area before working in the pandemic, 84.2% of the participants reported having previous experience in the area. Of this total, 43.8% had between one and five years of experience.

Of the total number of participants, 84.2% also had previous experience before working in the pandemic, but outside the intensive care area. 41.2% had experience between one and five years.

Finally, characterizing the type of ICU in which the participants worked, 36.8% worked only in COVID ICUs, while the majority, 63.2% of the total, worked in COVID ICUs and general ICUs.

Regarding the answers to the objective questions of the Collection Instrument, the following was observed:

To "in your opinion, did you feel able to work in an ICU?" (during the pandemic), 52.6% reported that they felt fit. When confronted with the question "considering exclusively your degree in physical therapy, do you think you were prepared to work immediately after graduating from an ICU?", only 15.8% of the participants considered that the undergraduate course prepared them to work in the ICU.

Faced with the question "during your graduation, did you do an internship in the cardiorespiratory area?", 94.7% answered yes, in the outpatient and hospital areas, with the hospital in the ICU and/or infirmary. The duration of the internships was very variable and ranged from one to ten months.

Considering the internship(s) performed in the cardiorespiratory area, 52.6% of the research participants reported that they felt satisfied with them.

DISCUSSION

Physiotherapy is an area of health that has been standing out in Brazil, both in terms of employability and academic training. And one of the characteristics observed in higher education in recent years is the predominance of the female sex12. In line with this data, the results of this study pointed to the predominance of female participants.

According to data from the National Institute for Educational Studies and Research Anísio Teixeira (INEP), in 2020, about 84% of physiotherapy graduates were women. This trend has continued over the years, and since 2010, the number of women graduated in physiotherapy is at least 75% higher than that of men. This female prominence in physical therapy may be related to a number of factors, such as the greater insertion of women in

the labor market, the valorization of health areas that demand skills that are still considered feminine, such as empathy and sensitivity, and the increase in female participation in higher education13.

In addition, physiotherapy is an area that has great potential for women entrepreneurs. Many physiotherapists have opened specialized clinics and offices, offering differentiated and innovative services, which has contributed to the strengthening of the sector and to the increase in the supply of quality services to the population. Thus, the predominance of women in the training of physical therapists has been consolidated in recent years14,15.

Most of the physiotherapists in the survey were aged between 25 and 26 years. Regarding the time of training, all participants had at least one year of training. And its majority, being 52.6%, was between one and five years old. This reinforces that most of the participants were young and, consequently, had little time to graduate.

It is possible that the group of participants aged 36 years or older (16% of the total) did not have their training based on the National Curriculum Guidelines (DCNs) for the physiotherapy course, which were inserted in 2002. The remainder, which totals 84.2% of the participants, had the DCNs as the basis of their training.

Since 2002, the structure of the physiotherapist graduation has been given by the DCNs through Resolution CNE/CES No. 04/2002, which began to request the training of a generalist, humanistic, critical and reflective professional, capable of working at all levels of health care16,17. In other words, it is expected that the physiotherapist professional is able to work from primary care to the tertiary sector and its specialties.

Regarding the level of education, all participants had at least some postgraduate level, and most of them, 73.7%, had a level of specialization and/or residency in physiotherapy. It is also noteworthy that 94.7% had a postgraduate degree in intensive care. In other words, the vast majority of professionals working in ICUs had a postgraduate degree in intensive care.

Regarding professional experience, the majority, 84.2%, had at least one year of experience in the intensive care area before working in the pandemic. Of this total, 43.8% had between one and five years of experience in the area. And the rest, in the same percentage of 18.8% with experiences of less than one year, between five and ten years and with more than ten years. It was also observed that the majority, 84.2% of the participants, had previously worked in another area, not only in intensive care, before working in the pandemic. And, of those who worked in other areas, 41.2% had experience outside the area in a period of one and five years.

Thus, it was shown that most professionals worked outside the intensive care area, before working in the pandemic. And, even with practical experience of the profession, it was necessary to specialize in the area of intensive care to work in the ICU. Since, it is difficult for any professional, without a postgraduate degree and experience in the area of intensive care, to enter this area.

According to a study carried out in the city of Maceió-AL, with the objective of outlining the professional training profile of physical therapists working in ICUs, published in 2012 in the scientific journal "Assobrafir Ciência", the findings were evidenced that, regarding professional training, 94.44% of physical therapists were postgraduates. The predominant degree was specialization, and cardiorespiratory/intensive care was the area that prevailed among graduate programs18.

Regarding the objective question of the data collection instrument, "in your opinion, did you feel able to work in an ICU?" (during the pandemic), there were ten participants (52.6%) who reported that they felt fit. However, when confronted with the question "considering exclusively your degree in physical therapy, do you think you were prepared to work immediately after graduating from an ICU?", only three participants (15.8%) considered that the undergraduate course prepared them to work in the ICU.

This reinforces that, even with the training based on the DCNs, the physiotherapists did not feel able to work in the ICU only with graduation. Once again, the need for graduate studies in the area of intensive care was demonstrated.

It was also possible to observe that there were no participants who worked only in general adult/neonatal and pediatric ICUs during the pandemic. The participants either worked only in the COVID ICU, being 36.8% of the total, or worked in both types of ICU, in general and COVID, in 63.2%. This made us reflect on the shortage of professionals able, in this period, to work in ICUs; either the professional was hired only on an emergency basis to work in the COVID ICU or those who already worked in the general ICUs were directed to also work in the COVID ICU.

An important point of this research was related to the durability of internships in the cardiorespiratory area. Faced with the question "during your graduation, did you do an internship in the cardiorespiratory area?", 94.7% answered yes and only one answered no, and the same did not justify the absence of the internship in the area, making it impossible to provide further evidence.

When asked about their satisfaction with the internships carried out in the cardiorespiratory area, 52.6% reported that they felt satisfied. That is, only half. This is a very representative number when reflecting on the training of physical therapists.

Despite the evidence that the cardiorespiratory stage was fulfilled, the variation in the durability of the stages was very relevant. The duration of the internships varied between one and ten months. Among the findings, internships were reported in the outpatient and hospital areas, with the hospital performed sometimes in the ICU, sometimes in the ward or in both.

According to Resolution No. 559, of September 15, 2017, which approved technical opinion No. 161/2017 on the recommendations of the National Health Council to the proposal of National Curriculum Guidelines for the undergraduate course in physiotherapy, it was defined in its Chapter III, article 9: "XVI - The minimum workload of the mandatory curricular internship must be 20% (twenty percent) of the total workload of the course and must ensure, in a proportional manner, the professional practice at the different levels of health care (primary, secondary and tertiary), except for regional peculiarities duly justified in the Pedagogical Project, contemplated in the profile of the graduate and in the professional competencies"[19,20].

Taking into account the obligation to comply with the internships and the minimum workload evidenced compared to the reality reported by the respondents, a great variation was observed in the duration of the internship in the cardiorespiratory area (between one and ten months). This is a significant difference in the workload and that leads to questions. Therefore, one wonders how this can happen? How is the workload of internships in their specialties divided by Higher Education Institutions (HEIs)? Are they being carried out correctly?

CONCLUSION

As a limitation of this work, it was not possible to know if the professionals who responded to this survey were still working or were hired only during the pandemic period.

The need for the physiotherapist to act competently in the promotion, preservation and recovery of cardiorespiratory function is paramount to the provision of qualified care by the SUS and should also be considered by the HEIs.

There was a great variety in the curriculum regarding the internship in the area of cardiorespiratory. This should be an important piece of data for HEIs to take a closer look at internships.

The training of physiotherapists, if related only to graduation, did not meet the needs to work in the pandemic and does not fully meet the DCNs or the requirements of SUS services.

There was a need for graduate studies to develop specific knowledge and skills in the area of cardiorespiratory care for intensive care.

Further studies and research related to the theme may contribute to a better understanding and definition of the curricular components and adequacy of physiotherapy courses to the DCNs and the demands of the community.

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