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IMPACTE DA PANDEMIA SOBRE OS ENFERMEIROS ESPECIALISTAS EM ENFERMAGEM DE REABILITAÇÃO E OS CUIDADOS PRESTADOS

*IMPACT OF THE PANDEMIC ON SPECIALIST NURSES IN REHABILITATION
NURSING AND THE CARE PROVIDED*

*IMPACTO DE LA PANDEMIA EN LOS ENFERMEROS ESPECIALIZADOS EN ENFERMERÍA DE
REHABILITACIÓN Y LO CUIDADO PROPORCIONADO*

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RESUMO

Introdução: A pandemia por COVID-19 conduziu à readaptação e reorganização dos sistemas de saúde.

Objetivos: Caracterizar o impacto da pandemia por COVID-19 nos Enfermeiros Especialistas em Enfermagem de Reabilitação; identificar o impacto da pandemia por COVID-19 nos cuidados especializados de enfermagem de reabilitação disponibilizados às populações; identificar o impacto da pandemia por COVID-19 nas estratégias de atualização técnico-científica dos Enfermeiros Especialistas em Enfermagem de Reabilitação; tendo ainda como finalidades disponibilizar informação aos decisores para uma melhor gestão de recursos humanos/profissionais; e, disponibilizar informação aos decisores para uma melhor gestão de cuidados de enfermagem especializados às populações.

Metodologia: Estudo observacional, descritivo e transversal. Amostra não probabilística, de conveniência, de enfermeiros especialistas em enfermagem de reabilitação, sócios da Associação Portuguesa dos Enfermeiros de Reabilitação. Questionário online. Análise descritiva e inferencial. O questionário foi submetido para resposta durante o período entre 2 de março de 2022 e 11 de abril de 2022, tendo obtido um total de 160 questionários respondidos.

Resultados: Durante o período da pandemia pelos EEER verificou-se um impacto negativo nas dimensões “tempo para os amigos” e “tempo para o lazer pessoal”, e um impacto positivo nas dimensões “relacionamento com os colegas de trabalho” e “disponibilidade de equipamentos de proteção individual”. No futuro verificou-se uma perceção de impacto negativo nas dimensões “atividades burocráticas”, “saúde pessoal”, “tempo para os amigos”, e “tempo para o lazer pessoal”, e um impacto positivo nas dimensões “disponibilidade de equipamentos de proteção individual” e “organização do espaço físico no local de trabalho”.

Conclusão: A pandemia por COVID-19 apresentou um impacto nos EEER e nos cuidados especializados prestados. Recomendam-se estudos futuros que permitam conhecer este impacto a longo prazo, ou direcionados para as intervenções autónomas dos EEER tornarem-se pertinentes.

Descritores: COVID-19; Enfermagem de reabilitação; Avaliação do Impacto na Saúde.

ABSTRACT

Introduction: COVID-19 pandemic led to the readaptation and reorganization of health systems.

Aims: Characterize the impact of the COVID-19 pandemic on the NSRN (nurses specialized in rehabilitation nursing); characterize the impact of the COVID-19 pandemic on specialized rehabilitation nursing care provided to populations; to characterize the impact of the COVID-19 pandemic on the technical-scientific updating strategies of the NSRN; and also as aims to provide information to decision-makers for better management of human/professional resources; and, to provide information to decision makers for better management of specialized nursing care for populations.

Methodology: Observational, descriptive and cross-sectional study. Non-probabilistic, convenience sample of nurses specializing in rehabilitation nursing, members of the Associação Portuguesa dos Enfermeiros de Reabilitação. Online questionnaire. Descriptive and inferential analysis.

Results: During the period of the pandemic by the NSRN, we verified a negative impact on the dimensions “time for friends” and “time for personal leisure”, and a positive impact on the dimensions “relationship with coworkers” and “availability of equipment for individual protection”. In the future, there is a perception of a negative impact on the dimensions “bureaucratic activities”, “personal health”, “time for friends”, and “time for personal leisure”, and a positive impact on the dimensions “availability of protective equipment individual” and “organization of the physical space in the workplace”.

Discussion: Acknowledgement of the impact serves as guidance for implementing changes in work dynamics and service structures.

Conclusion: The COVID-19 pandemic had an impact on the NSRN and on the specialized care provided. Future studies that allow knowing this impact in the long term, or directed to the autonomous interventions of the NSRN, become pertinent.

Descriptors: COVID-19; Rehabilitation nursing; Evaluation of Impact on Health.

RESUMEN

Introducción: La pandemia de COVID-19 motivó la readecuación y reorganización de los sistemas de salud.

Objetivos: Caracterizar el impacto de la pandemia de COVID-19 en los EEER (enfermeros especialistas en enfermería de rehabilitación); caracterizar el impacto de la pandemia de COVID-19 en los cuidados de enfermería especializada en rehabilitación prestados a las poblaciones; caracterizar el impacto de la pandemia del COVID-19 en las estrategias de actualización técnico-científica de los EEER; e como finalidades proporcionar información a los tomadores de decisiones para una mejor gestión de los recursos humanos/profesionales; y, proporcionar información a los decisores para una mejor gestión de la atención de enfermería especializada a las poblaciones.

Metodología: Estudio observacional, descriptivo y transversal. Muestra no probabilística de conveniencia de enfermeros especialistas en enfermería de rehabilitación, miembros de la Associação Portuguesa dos Enfermeiros de Reabilitação. Cuestionario en línea. Análisis descriptivo e inferencial.

Resultados: Durante el período de la pandemia por los EEER, se verificó un impacto negativo en las dimensiones “tiempo para los amigos” y “tiempo para el ocio personal”, y un impacto positivo en las dimensiones “relación con los compañeros de trabajo” y “disponibilidad de equipos de protección personal”. A futuro, se percibe un impacto negativo en las dimensiones “actividades burocráticas”, “salud personal”, “tiempo para los amigos” y “tiempo para el ocio personal”, y un impacto positivo en las dimensiones “disponibilidad de medios de protección”. equipamiento individual” y “organización del espacio físico en el lugar de trabajo”.

Discusión: El conocimiento del impacto sirve de guía para implementar cambios en las dinámicas de trabajo y estructuras de servicio.

Conclusión: La pandemia de COVID-19 tuvo impacto en los EEER y en la atención especializada proporcionada. Futuros estudios que permitan conocer este impacto a largo plazo, o dirigidos a las intervenciones autónomas de los EEER, cobran relevancia.

Descriptores: COVID-19; Enfermería de rehabilitación; Evaluación del Impacto en la salud.

INTRODUCTION

The World Health Organization (WHO) declared on March 11, 2020, the Severe Acute Respiratory Syndrome due to COVID-19 as a pandemic ⁽¹⁾.

The COVID-19 pandemic brought about several changes, and health services were not excluded from them. Several social and public health measures were implemented in order to prevent and control the risk of infection in different contexts, which resulted in changes in the dynamics of work and health services ^(2; 3).

In a context of already overloading institutions and health professionals, it is understood that these changes have, in certain contexts, aggravated existing problems or created new challenges. Some issues such as the scarcity of material and personal protective equipment, mental and physical exhaustion were already problematic in the contexts of practice of health professionals, as well as the need to restructure services and healthcare by changing priorities ⁽⁴⁾.

In addition to the evidence in the acute phase of the consequences of the virus, there is also evidence in a longer phase. It is estimated that 1 in 5 people infected with COVID-19 may experience the symptoms of the acute phase in a longer phase, called long covid ⁽²⁾. According to the same source, about 5 to 20% of people may experience the symptoms of the acute phase for a period of more than 4 weeks, and these may still be present in a period of up to 14 weeks (considered continuous COVID-19 symptoms) and after 14 weeks (considered as syndrome after COVID-19). At this stage the symptoms that can be identified can include fatigue, headaches, tinnitus, anosmia, persistent cough, chest pain, dyspnea, palpitations, myocarditis, diarrhea, myalgia, abdominal pain, rash, recurrent fever, cognitive complications, and depression. There are reported symptoms such as alcohol use and post-traumatic stress ⁽⁴⁾.

In a survey aimed at accessing the impact that the pandemic had on nurses after the first year of the COVID-19 pandemic, conducted by the American Nurses Foundation (2021)⁽⁵⁾, it was identified that, out of a total of 22,316 nurses, about 51% were exhausted, 43% had overload, about 37% had irritability, and about 36% had anxiety without apparent cause, among other symptoms that may have a negative influence on the lives of these professionals. The symptoms are not related to the severity of symptoms that occurred during the acute phase. In this same survey ⁽⁵⁾ it was found that 47% of nurses consider leaving the profession due to it negatively affecting their well-being and health, 45% consider leaving the profession

due to lack of work 33% say they consider leaving the profession due to lack of support during the pandemic period, and 28% consider ceasing to perform their duties because of the impossibility of providing quality and consistent care, as well as due to the loss of confidence in the employer. ⁽⁵⁾

The protection of health, well-being and safety of health professionals is essential considering that this professional category is an important pillar in the quality and guarantee of care. Such protection requires good coordination and the adoption of measures for the prevention and control of infection, safety and occupational health, personnel management and psychological and mental health support to prevent an increase in the rate of disease in health professionals, as well as absenteeism, decreased productivity and quality of care ⁽⁷⁾.

Regarding the adaptation of services, and considering the pandemic situation, a change was identified at the level of health care organization, prioritizing the direct response to COVID-19 cases, and significantly reducing the provision of care to other pathologies/contexts, namely the specialized care of rehabilitation nursing ⁽⁴⁾.

The NSRNs were from the beginning involved in the emergency response of the National Health System (NHS) to the COVID-19 pandemic, and suffered from the changes made by the needs identified during the pandemic period, namely: the change of role within the teams, some of which have gone from intervention as full-time specialist nurses to intervention as part-time or full-time generalist nurses; the change of services to care, having some been directed to departments other than those in which they were previously affected; the change of residence in time of care for reasons of prevention of transmission of the virus and protection of their dear ones; the change in the quality of care provided, since in times of pandemic there is a central focus on the most urgent problem in order to respond to it; and, the existence of ethical and deontological challenges in the provision of care that conditioned the decision-making process and prioritization of clinical cases. ⁽⁴⁾

In addition to the structural challenges, the availability of reliable and up-to-date data regarding the responsiveness and disturbances identified in health services arising from the pandemic is an important issue, without this data becomes difficult to substantiate mitigation strategies and guidance for the response to real needs ⁽²⁾.

For this same reason, it is pertinent to know the impact of the COVID-19 pandemic on NSRNs and in the provision of care, in order to identify problems and challenges, and subsequently enable the implementation of measures to promote quality of care and consequent satisfaction of these professionals.

METHODOLOGY

Considering that there is still little evidence regarding the impact of the pandemic on NSRN, we formulated as a starting question “What is the impact of the COVID-19 pandemic on nursing professionals and care specialists in rehabilitation nursing?”.

AIMS OF THE STUDY

Based on the knowledge of the impact of another 2 years of pandemic on the NSRNs, our aim was to provide information that allows optimizing decision-making, nursing care management and clinical governance in future pandemic episodes.

The aims were established: to assess the impact of the COVID-19 pandemic on NSRN; to identify the impact of the COVID-19 pandemic on specialized rehabilitation nursing care provided to populations; to identify the impact of the COVID-19 pandemic on NSRN technical-scientific updating strategies.

Consequent to the outlined aims, we formulated the following purposes for the study: to provide information to decision-makers for better management of human/professional resources; and, to provide information to decision makers for better management of specialized nursing care for populations.

We carried out an observational, descriptive and cross-sectional study. The study population included the NSRN, members of the Portuguese Association of Rehabilitation Nurses (*Associação Portuguesa dos Enfermeiros de Reabilitação* - APER). We used a non-probabilistic convenience sample of NSRN that met the following inclusion criteria: to be NSRN; APER members; to have performed functions in any type of service during the period under analysis; and, to agree to participate in the study.

We used an online questionnaire “Impact of the COVID-19 pandemic on nursing care” made available by APER to the members, in partnership with the Escola Superior de Enfermagem do Porto (ESEP).

Therefore, the questionnaire used had two parts, the first with sociodemographic data and the second part with questions related to I) changes in nursing care due to the COVID-19 pandemic; (II) changes in work organization; (III) ethical decisions; (IV) more challenging cases; (V) additional training necessary to care for patients with COVID-19; In addition to these, questions relating to the impact of the pandemic in the future were added, which were prepared for this study.

The questionnaire was made available via email and consisted of two parts, the first to collect sociodemographic data, the second part aimed at assessing the impact of the pandemic.

This questionnaire was originally developed by Marco Clari (2020), and later translated and used by Padilha e Silva (2020). The evaluation of variables associated with training and scientific technical updating was evaluated on a 5-point Likert scale, with 1 referring to “worst opinion” and 5 to “best opinion” about the variable. The variables associated with the assessment of patients’ clinical complexity and NSRN satisfaction were evaluated on a three-point Likert scale (decreased, remained the same, increased).

In this study, we associated a new dimension to the original data collection instrument for assessing the impact of the pandemic in the future on the work and lives of rehabilitation nurses, assessed using a 7-point Likert scale, from “-3” to “higher negative impact” “0” “zero impact” to “3” “greatest positive impact”.

Data were collected through an online questionnaire sent by email to the population. The questionnaire was submitted for response during the period between March 2, 2022 and April 11, 2022.

Data processing and analysis was subsequently carried out using inferential and descriptive statistics using IBM SPSSR version 28 (IBM Corp. Released 2020).

In this study, all ethical assumptions were adopted, and authorization was obtained from the Ethics Committee of the Escola Superior de Enfermagem do Porto with reference ADTE_70/2021.

Regarding ethical considerations, we guarantee prior informed consent and the anonymization and confidentiality of responses.

RESULTS

As a sample for this study, we obtained a total of 160 completed questionnaires. In terms of the sociodemographic characteristics of our sample, these are presented in the following table (Table 1).

Table 1 – Sociodemographic data of the sample.

Gender	Female 72.5% (n=116)
	Male 27.5% (n=44)
Average age	45.8 years-old (SD±7.8)
Professional experience (average)	22 years
Professional category	Specialist nurse 92.5% (n=148)
	Nurse 4.4% (n=7)
	Manager/head nurse 3.1% (n=5)

It should be noted that there were changes in the execution of functions such as NSRN when comparing the period before and during the pandemic. These changes are observed in Table 2.

Table 2– Execution of functions as NSRN before and during the pandemic.

	Before the pandemic	After the pandemic
Yes, all the time	43.8% (n=70)	22.5% (n=36)
Yes, partial time	33.8% (n=54)	48.8% (n=78)
No	20% (n=32)	26.9% (n=43)
No reply	2.5% (n=4)	1.9% (n=3)

It can also be seen that, since March 2020, 74.4% (n=119) of nurses have provided care to patients with COVID-19 or worked in a service dedicated to COVID-19. During the pandemic period, 42.5% (n=68) of nurses reported an increase in the number of patients in their care per shift.

Regarding the ratios between specialist rehabilitation nurse/patient per shift, 46.3% (n=74) of nurses reported a decrease.

Additionally, it was found that 63.7% (n=102) of nurses reported an increase in weekly working hours during the pandemic period.

IMPACT OF THE COVID-19 PANDEMIC

During the pandemic period, the NSRN observed a negative impact on the dimensions “time for friends” and “time for personal leisure”, and a positive impact on the dimensions “relationship with co-workers” and “availability of personal protective equipment ” as can be seen in table 3.

Table 3– Impact perceived by NSRN during the pandemic period.

	Average	Standard deviation	Min	Max
Organization of physical space in the workplace	-0.61	2.02	-3	3
Availability of personal protective equipment	0.77	2.08	-3	3
Relationship with family members of patients	-1.19	1.90	-3	3
Relationship with co-workers	0.29	1.88	-3	3
Training and integration of nurses	-1.16	1.67	-3	3
Supervision of nursing students	-1.68	1.46	-3	3
Bureaucratic activities	-1.01	1.70	-3	3
Personal health	-1.38	1.55	-3	3
Family time	-1.81	1.40	-3	3
Time for friends	-2.18	1.26	-3	3
Personal leisure time	-2.16	1.28	-3	3
Time for professional training	-1.64	1.74	-3	3

In the future, there will be a perception of a negative impact on the dimensions “bureaucratic activities”, “personal health”, “time for friends”, and “time for personal leisure”, and a positive impact on the dimensions “availability of protective equipment individual” and “organization of physical space in the workplace”, as can be seen in table 4.

Table 4 – Impact perceived by NSRN in the future.

	Average	Standard deviation	Min	Max
Organization of physical space in the workplace	0.88	1.70	-3	3
Availability of personal protective equipment	1.62	1.55	-3	3
Relationship with family members of patients	0.42	1.79	-3	3
Relationship with co-workers	0.83	1.66	-3	3
Training and integration of nurses	0.47	1.67	-3	3
Supervision of nursing students	0.28	1.63	-3	3
Bureaucratic activities	-0.12	1.62	-3	3
Personal health	-0.07	1.86	-3	3
Family time	0.01	1.97	-3	3
Time for friends	-0.07	2.03	-3	3
Personal leisure time	-0.07	2.01	-3	3
Time for professional training/updating	0.42	1.87	-3	3

The COVID-19 pandemic had an impact on the different dimensions studied, highlighting that head nurses/managers have a more positive perception of this impact compared to other nurses, both during the pandemic period and for the future.

It was also found that the pandemic had a more negative impact on NSRN who no longer performed functions as specialists, as seen in table 5, through the One-Way ANOVA Test and the Tukey HSD Test.

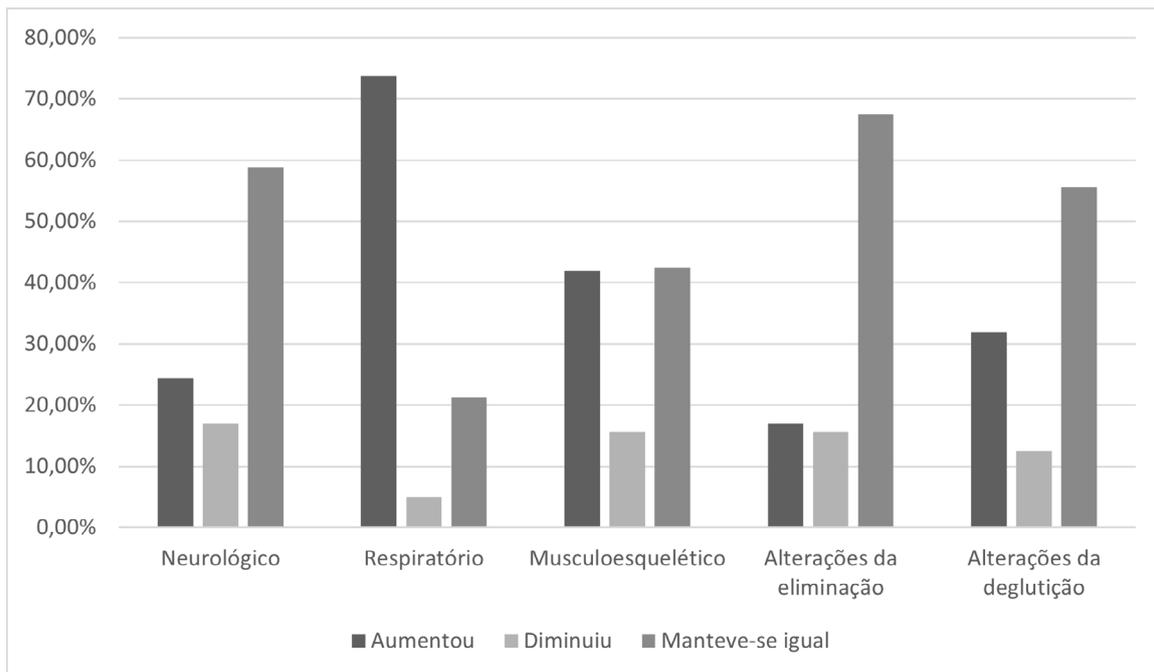
Table 5 – Impact perceived by NSRN considering the performance of functions as a specialist in rehabilitation nursing.

	F	p	Categories	Average	p
Time for family	8.28	<0.001	Always specialized in rehabilitation nursing	-0.97	<0.001
			I stopped providing specialized rehabilitation nursing care	-2.21	

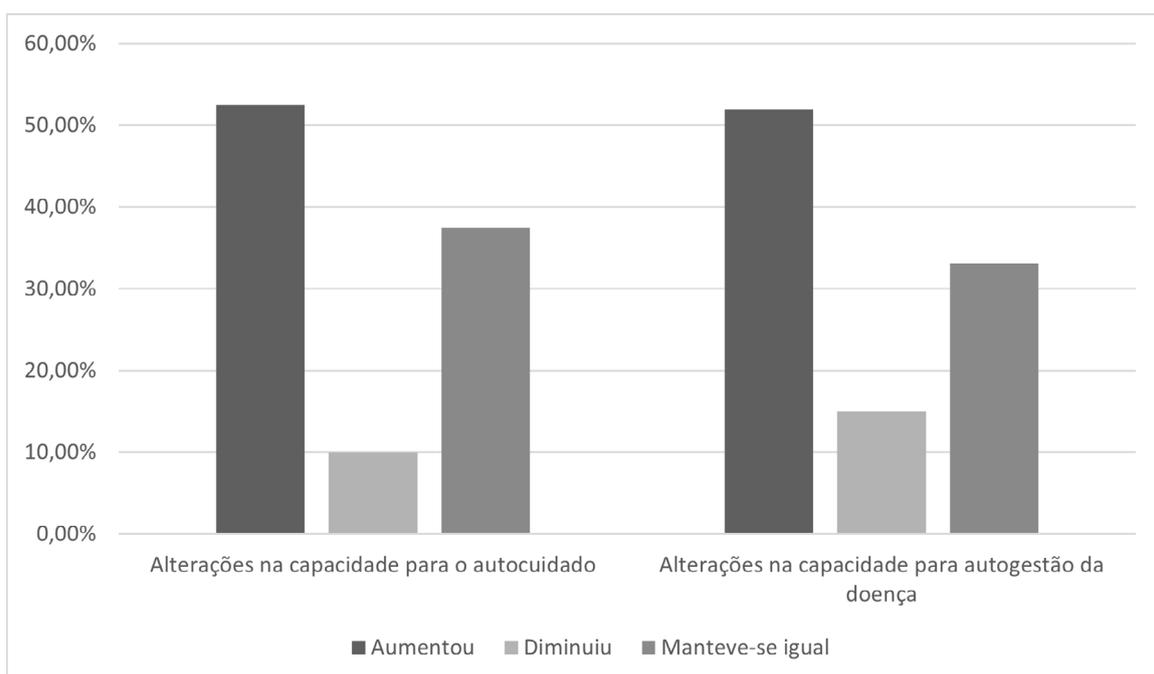
CLINICAL COMPLEXITY OF PATIENTS

The COVID-19 pandemic also presented a change in the clinical complexity of patients. There was an increase in complexity in “respiratory” patients for 73.8% of NSRN, with “changes in the capacity for self-care” for 52.5% of NSRN and “changes in the capacity for self-management of the disease” for 51.9% of NSRN. These changes can also be seen in the following graphs (Graph 1 and 2).

Graph 1 – Clinical complexity of patients during the pandemic period.



Graph 2 – Clinical complexity of patients during the pandemic period.



SATISFACTION WITH THE CARE PROVIDED

Overall satisfaction, with the various dimensions of specialized care provided, decreased to 59.4% of NSRN. However, when we individually analyzed the extent of care provided to “respiratory” patients, satisfaction increased to 40% of NSRN.

In the dimension of satisfaction with the quality of care, the most negative impact was perceived by the NSRN who no longer performed specialist functions and in relation to the provision of nursing care to people with elimination disorders, as can be seen in table 6, through the Kruskal-Wallis difference test.

Table 6 – Satisfaction with the care provided considering the performance of functions such as NSRN.

	Average order (Always specialized in rehabilitation nursing)	Average order (I stopped providing specialized rehabilitation nursing care)	Average order (Almost always specialized in rehabilitation nursing, but in some periods only as general care nurses)	H	p
Patients with Elimination alterations	90.57	73.98	81.47	10.80	0.01

USE OF LEARNING RESOURCES

During the COVID-19 pandemic, there was a need for health professionals to use learning resources, with *webinars* and scientific newspapers/magazines being the most used resources with the most positive impact on nurses. These results can be seen in Table 7.

Table 7 – Use and impact of learning resources.

	Use				Impact			
	Average	Standard deviation	Min	Max	Average	Standard deviation	Min	Max
Colegas peritos	3.03	1.23	1	5	3.1	1.23	1	5
Outros peritos da equipe de saúde	3.03	1.26	1	5	3.11	1.19	1	5
Webinars	3.79	1.21	1	5	3.69	1.17	1	5
Websites institucionais	3.08	1.39	1	5	3.09	1.32	1	5
Plataformas de e-learning	3.09	1.38	1	5	3.03	1.33	1	5
Jornais e revistas científicas online	3.21	1.18	1	5	3.29	1.22	1	5

LEARNING MODALITIES

Regarding the learning modalities preferred by nurses in the future, the face-to-face and mixed regime were those that obtained higher average values, as shown in table 8.

Table 8 – Learning modalities.

	Average	Standard deviation	Min	Max
Presential	3.84	1.21	1	5
Distance	2.71	1.20	1	5
Synchronous Distance	3.26	1.14	1	5
Asynchronous Distance	3.45	1.23	1	5
Mixed	3.69	1.17	1	5

DISCUSSION

The perception of the impact of the pandemic may be related to different issues. In addition to social and public health measures, working conditions implemented as response measures to the pandemic in health services can also play an important role, which reinforces the idea that there was greater solidarity and team spirit among colleagues. The variable “relationship with co-workers” had a positive impact on nurses during the pandemic. These results are in line with previous results ⁽⁴⁾. The “availability of personal protective equipment” had a positive impact, which may be due to greater investment in these resources as an immediate response to the pandemic, as highlighted in a previous study ⁽⁸⁾.

In the “future” period, the variable “availability of personal protective equipment” remains one of the variables with the most positive impact on nurses. The variable “organization of physical space in the workplace” also has a positive impact. The variables with the most negative impact “in the future” were “bureaucratic activities”, “personal health”, “time for friends”, and “time for personal leisure”. These results are less impactful compared to the values obtained in the period “during the pandemic”. “Bureaucratic activities” may have a less impactful negative impact value due to the fact that, over time and with the production of evidence, the implementation and organization of healthcare are better supported through the acquisition of new knowledge and implementation of standards and guidelines that provide better support in nursing interventions ⁽⁸⁾.

There is a decrease in satisfaction with the care provided by NSRN, probably as a result of the adaptation of the functions of these professionals during the pandemic period. In the previous study ⁽⁸⁾, specialist nurses demonstrated a lower average impact on the dimensions of autonomous practices, including planning, assessment and continuity activities, influencing the way they respond to the needs of their patients.

The increase in the clinical complexity of respiratory patients may be related to the symptoms associated with the virus and its subsequent consequences, and the increase in the clinical complexity of patients with changes in the capacity for self-care and self-management of

the disease may be related to the fact is that there is still little evidence about the health behaviors to adopt during rehabilitation after the acute period of the disease, and it is also a transition in which many patients have become dependent or even more dependent.

Changes in working conditions, ratios, working hours and functions performed play an essential role in the quality of care and, inevitably, in the satisfaction of healthcare professionals. With the present data, it becomes clear to decision makers that some changes or adaptations must be made to services in order to allow for better dynamics and quality of care provided. As a limiting factor we can highlight the data collection time.

CONCLUSION

The study of the impact of the pandemic on NSRN and the specialized care provided contributes to the knowledge of this dimension and to the implementation of measures aimed at better management of human/professional resources and the better management of specialized care provided to populations.

Considering the aims previously outlined for this study, we can say that we obtained results that help to answer them. In order to identify the impact of the COVID-19 pandemic on specialized rehabilitation nursing care provided to populations, it was found that the pandemic had an impact on the clinical complexity of certain types of patients, as well as having an impact on the satisfaction that patients received. nurses present in providing care. In order to characterize the impact of the COVID-19 pandemic on the technical-scientific updating strategies of the NSRN, it was found that during the pandemic period, certain learning resources that enabled a more updated and safe practice of care, with in addition to learning resources, there is a preference for certain learning modalities with regard to learning for the future. For the remaining two aims, providing information to decision-makers for better management of human/professional resources, and providing information to decision-makers for better management of specialized nursing care for populations, the results are important information for decision-making and adaptation of conditions of work, aiming for a higher quality of care and professional satisfaction. This information could be useful in preparing the response of health services to potential future pandemics.

It would be interesting to explore more specifically how the pandemic affected the personal and professional lives of NSRNs, as well as continuous monitoring of the same results over a longer period, with more comparative purposes. Studies more focused on the impact of the pandemic on the autonomous interventions of the NSRN, as well as on satisfaction with the provision of care, would also be relevant as they will promote a better understanding of the context and the problem.

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None

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The authors have read and agree with the published version of the manuscript.