

## **CHALLENGES AND CONSTRUCTION OF KNOWLEDGE BY NURSES IN CARE FOR PEOPLE WITH POST-COVID-19 SYNDROME**

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### **ABSTRACT**

**OBJECTIVE:** to understand how nurses describe the challenges and construction of knowledge related to the care provided to people with post-COVID-19 syndrome.

**METHOD:** this is qualitative-descriptive research, guided by the social constructionist perspective, carried out with seven nurses in a 24-hour Emergency Care Unit located in Minas Gerais. Data were collected from March to June 2022 through recorded semi-structured interviews. Data analysis took place through the transcription of interviews, followed by a curious reading of the material and definition of categories, step-by-step, anchored by social constructionism. The theoretical framework was composed of the set of authors who helped in the analysis and discussion of the categories constructed to respond to the study objectives.

**RESULTS:** four categories emerged from the interviews, namely: 1) Initial reflexes of the pandemic, in which nurses' feelings of fear, concern and insecurity were evidenced; 2) COVID-19 traces, of which the respiratory sequels caused by the disease stood out; 3) Knowledge about post-COVID-19 syndrome, which detected lack of knowledge about signs and symptoms and nursing care, due to lack of training and use of protocols; 4) Care for post-COVID-19 syndrome, which highlighted the lack of knowledge about referring people to rehabilitation services.

**CONCLUSION:** despite the lack of protocols and training provided by the institution, nursing professionals provided assistance care on knowledge provided by their experiences and the exchange of experiences with other collaborators.

**DESCRIPTORS:** Coronavirus infections. COVID-19. Pandemics. Nursing care. Education continuing. Post-acute COVID-19 syndrome.

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# DESAFIOS E CONSTRUÇÃO DE CONHECIMENTOS POR ENFERMEIROS NA ASSISTÊNCIA ÀS PESSOAS COM SÍNDROME PÓS-COVID-19

## RESUMO

**OBJETIVO:** compreender como enfermeiros descrevem os desafios e a construção do conhecimento relacionado ao cuidado prestado a pessoas com síndrome pós-COVID-19.

**MÉTODO:** pesquisa qualitativa-descritiva, orientada pela perspectiva construcionista social, realizada com sete enfermeiras em uma Unidade de Pronto Atendimento nas vinte e quatro horas, localizada em Minas Gerais. Os dados foram coletados no período de março a junho de 2022 por meio de entrevistas semiestruturadas gravadas. A análise dos dados ocorreu por meio da transcrição das entrevistas, seguida pela leitura curiosa do material e definição de categorias, passo-a-passo ancorado pelo construcionismo social. O referencial teórico foi composto pelo conjunto de autores, que auxiliaram na análise e discussão das categorias construídas para responder aos objetivos do estudo.

**RESULTADOS:** emergiram das entrevistas quatro categorias, a saber: 1) reflexos iniciais da pandemia, na qual foram evidenciados sentimentos de medo, preocupação e insegurança das enfermeiras; 2) os rastros da COVID-19, dos quais, destacaram-se as sequelas respiratórias ocasionadas pela doença; 3) o saber sobre a síndrome pós-COVID-19, que detectou o desconhecimento acerca dos sinais e sintomas e assistência de enfermagem, devido à falta de treinamentos e uso de protocolos e; 4) atendimento à síndrome pós-COVID-19, que destacou a falta de conhecimento acerca do encaminhamento das pessoas aos serviços de reabilitação.

**CONCLUSÃO:** mesmo diante da falta de protocolos e treinamentos proporcionados pela instituição, as profissionais de enfermagem prestaram assistência baseada no conhecimento proporcionado pelas suas vivências e pela troca de experiências com outros colaboradores.

**DESCRIPTORIOS:** Infecções por coronavírus. COVID-19. Pandemias. Assistência de enfermagem. Educação continuada. Síndrome pós-COVID-19 aguda.

# DESAFÍOS Y CONSTRUCCIÓN DEL CONOCIMIENTO POR PARTE DE LOS ENFERMEROS EN LA ASISTENCIA A PERSONAS CON SÍNDROME POST-COVID-19

## RESUMEN

**OBJETIVO:** comprender cómo los enfermeros describen los desafíos y la construcción de conocimientos relacionados con el cuidado prestado a las personas con síndrome post-COVID-19.

**MÉTODO:** investigación cualitativa-descriptiva, guiada por la perspectiva construcionista social, realizada con siete enfermeros en una Unidad de Atención de Emergencia 24 horas, ubicada en Minas Gerais. Los datos fueron recolectados de marzo a junio de 2022 a través de entrevistas semiestruturadas grabadas. El análisis de datos se realizó a través de la transcripción de entrevistas, seguida de una lectura curiosa del material y definición de categorías, paso a paso anclado en el construccinismo social. El marco teórico estuvo compuesto por el conjunto de autores, quienes ayudaron en el análisis y discusión de las categorías construidas para responder a los objetivos del estudio.

**RESULTADOS:** de las entrevistas surgieron cuatro categorías, a saber: 1) Reflexiones iniciales de la pandemia, en las que se evidenciaron los sentimientos de miedo, preocupación e inseguridad de las enfermeras; 2) Los rastros del COVID-19, de los cuales se destacaron las secuelas respiratorias provocadas por la enfermedad; 3) Conocimiento sobre el síndrome post-COVID-19, que detectó falta de conocimiento sobre signos y síntomas y cuidados de enfermería, por falta de capacitación y uso de protocolos y; 4) Atención al síndrome post-COVID-19, que destacó el desconocimiento sobre la derivación de personas a los servicios de rehabilitación.

**CONCLUSIÓN:** incluso, ante la falta de protocolos y capacitación brindada por la institución, los profesionales de enfermería brindaron asistencia a partir del conocimiento brindado por sus experiencias y el intercambio de experiencias con otros colaboradores.

**DESCRIPTORIOS:** Infecciones por coronavirus. COVID-19. Pandemias. Atención de enfermería. Educación continúa. Síndrome post agudo de COVID-19.



## INTRODUCTION

December 2019 was marked by the emergence of SARS-CoV-2 in China, which spread across the world, triggering the COVID-19 pandemic. Over time and the evolution of cases, it was observed that the inflammatory response generated by the virus caused changes in various body systems, which persisted beyond the acute stage of the disease, causing sequels. COVID-19 is thus characterized as a diffuse and multisystemic disease<sup>1-3</sup>. The new coronavirus pandemic is the greatest public health emergency that the world community has faced in decades<sup>4</sup>.

Post-COVID-19 sequels were described in mid-2020 through the presence of symptoms after its acute phase<sup>5</sup>. Such conditions were called post-COVID-19, or post-COVID-19 syndrome or long COVID-19<sup>6</sup>. In this study, the nomenclature of post-COVID-19 syndrome was adopted, defined as a group of symptoms, sometimes overlapping, that can change over time and affect any body system<sup>7</sup>.

The pathophysiology of post-COVID-19 syndrome manifestations is not completely understood. Some of them are explained by virus persistence in privileged sites of the immune system, hyperactivation of this system, generation of autoantibodies and pre-existing comorbidities. There is also the interference of changes in social conditions (social isolation and changes in routine) that may lead to some clinical manifestations after the acute phase<sup>1,7-8</sup>.

The acute effects of COVID-19 have been widely discussed and described, while symptoms that persist in the long term, which have impacted quality of life, also remain poorly understood<sup>2,9</sup>. Despite the incidence of post-COVID-19 syndrome, there is an insufficient approach to studies on the disease in the literature<sup>7,10</sup>. Existing studies address the pathology definition, associated risk factors, more susceptible people<sup>3,7</sup>, description of sequels in different body systems<sup>10-13</sup> and rehabilitation<sup>14</sup>.

Therefore, regarding nursing role in providing care to people with post-COVID-19 symptoms, studies that address the knowledge of the category related to care for this population are still limited<sup>9</sup>. Therefore, the study is justified by the magnitude that the COVID-19 pandemic has reached, in addition to the need to learn about the complications and sequels in the body, considering nurses' role in care, putting themselves in front of the reception and direct care of patients. Such professionals are critical in designing a comprehensive plan to identify and manage the complications caused by SARS-CoV-2. Hence, the relevance of investigating the question of how the arrival of the pandemic impacted nurses who work in Emergency Care Units (ECU) as gateways for patients with respiratory symptoms. In this direction, the research aimed to understand how these professionals describe the challenges and the construction of knowledge related to the care provided to people with post-COVID-19 syndrome. It is expected that the corpus of this study will generate relevant information for the care of people with post-COVID-19 syndrome.

## METHOD

This is qualitative-descriptive research, guided by social constructionism as a methodological framework; therefore, interested in the social reality and knowledge of nurses who care for people with post-COVID-19 syndrome. Social constructionism seeks to understand phenomena based on their historical, social and cultural context<sup>15-16</sup>. It is thus understood that meanings are constructed discursively between people, anchored in participants' social reality, values and attitudes<sup>15-17</sup> and between researchers and participants.

Based on the social constructionist orientation, the research is centered on identifying the processes and context of meaning production, described by the research subjects<sup>15</sup>, in addition to expanding people's ways of talking and relating, enabling knowledge of multiple realities<sup>16</sup>. From this perspective, language is not simply a tool for conveying information, but a way of constructing reality<sup>16</sup>.

The bet on language and interaction with participants proposed by social constructionism will allow the understanding of how the professionals surveyed have been building their knowledge about post-COVID-19 syndrome and developing the necessary care. Knowledge, according to the social constructionist invitation, is built throughout experiences, dialogue and exchange of experiences<sup>17</sup>.

The survey was carried out between March and June 2022 in a 24-hour ECU, located in Minas Gerais, online, using Information and Communication Technologies (ICT), aiming at respecting health standards.

The site is a public institution with municipal management, which offers urgent and medium-complexity emergency care on spontaneous demand. With the COVID-19 pandemic, the unit became a gateway to care for people with respiratory symptoms. In that unit, two screenings were organized: one for respiratory syndrome and flu symptoms; and another for hosting the other clinical conditions.

The unit's nursing team has a workload of thirty-six hours a week. Nursing professionals who work in the respiratory symptoms ward receive an unhealthy premium that is different from the others, justified by exposure to microorganisms with high contamination power, such as SARS-CoV-2.

For data collection, initially, contact was made with the person in charge of the nursing service at the unit, informing about the project. At this meeting, explanations about the study, objectives and doubts regarding the research were clarified. Furthermore, the unit's duty roster was requested to select professionals.

Then, professionals with a nursing degree of both sexes, hired by the company responsible for managing the ECU and who worked in the ward dedicated to respiratory syndrome care, were invited to participate in the research. Professionals who were on vacation or away from work during the study period were considered ineligible to participate in the research.

*A priori*, ten nurses fit the inclusion criteria. After selecting participants, the e-mail of these professionals was requested from the nursing technician in charge. Contact was made with each nurse via email to invite them to participate in the study. In the text sent via e-mail, the following stood out: presentation of researchers; study relevance; goals; importance of secrecy; and freedom to withdraw at any time without prejudice to continuity of work performance in the institution. Among the ten invited nurses, seven agreed to participate in the study. The others did not respond to the email forwarded, in two attempts, with an interval of one week.

The professionals who agreed to participate received a new email in order to verify the best date and time for the interview. Then, depending on participants' availability, the meeting link was forwarded via Google Meet with access information. Before starting data collection, guidance on the study and confidentiality were provided, and then the Informed Consent Form (ICF) was sent online through the link created via Google Forms, read with participants and digitally signed.

With the intention of safeguarding the anonymity and secrecy of the information collected, participants' names were changed to codenames, inspired by comic book superheroes. Thus, participants chose the following codenames: Wonder Woman, Storm, Iron Man, She-Hulk, Black Widow, Batman, Captain America.

For data collection, semi-structured, individual interviews were conducted remotely by a nurse researcher who was not part of the unit's staff, using Google Meet. Participants were in their homes, in a reserved place and used a computer or cell phones to access the virtual room. The interviews addressed sociodemographic conditions, followed by a conversation related to the repercussions of caring for people with post-COVID-19 syndrome. These lasted an average of thirty minutes and were recorded via a portable recorder.

Data analysis was based on constructionist proposals<sup>16,18</sup> including: 1) full transcription of all interviews; 2) deep and curious reading (genuine interest in speeches) of data, which enabled the construction of categories; 3) description of relevant speeches to each category, seeking to give voice to nurses' daily lives in the care of the pandemic context and in the care of people with post-COVID-19 syndrome; 4) critical analysis of statements anchored in studies related to the care of people with post-COVID-19 syndrome, with the aim of expanding the understanding of the participating professionals' work routines.

The study is based on Resolution 510/16, and the project was approved by the Research Ethics Committee of the *Universidade Federal do Triângulo Mineiro*.

## RESULTS

Study participants were female (100%), aged between 27 and 58 years; four (57.14%) were married; and five (71.42%) had children. Training time ranged from three to 23 years. Regarding another employment relationship, three (41.85%) of them had a second job.

Four categories emerged from the interviews, namely: 1) Initial reflexes of the pandemic, which addressed what it was like to receive the news of a pandemic; 2) COVID-19 traces, through the consequences caused by the disease; 3) Knowledge about post-COVID-19 syndrome, which brings reflections on nurses' knowledge about post-acute phase symptoms and; 4) Care for post-COVID-19 syndrome, which deals with aspects of case management, as described below.

### Initial reflexes of the pandemic

The context of decreeing the pandemic proved to be a new and unexpected situation for participants. The professionals did not believe in the proportion that the pandemic would reach.

*[...] the news of the pandemic, until then I thought it was a reality that was far from us, that it would not arrive in such a way... I never expected to experience a pandemic (Storm).*

*[...] first thing, we don't believe. We say like this, "No way, it's not happening" (Iron Man).*

*[...] at first, I didn't think it would get as far as it did (Black Widow).*

During this period, ignorance of the new disease emerges, associated with feelings of insecurity and fear.

*[...] in the beginning, a lot of fear (Wonder Woman). [...] the first thing we had was fear (Storm).*

*[...] then, after that many people started to die, people very close, that we know, I got scared (Black Widow).*

Nurses' concern and fear of contracting and transmitting the virus to family members was evident:

*[...] very afraid of bringing the virus home, passing it on to the family (Wonder Woman).*

*[...] we get scared, especially people who have children, we think, because it's not just "working"; we think there's someone you need to go back to, and in that moment, we're really scared (Iron Man).*

*[...] and my biggest fear was going back home, having the disease, being asymptomatic and passing it on to my family. [...] because my older adult parents, my daughters; my biggest fear was transmitting it to my parents. So much so that, during the first year of the pandemic, I spent almost a year without seeing my parents (She-Hulk).*

*[...] my fear was to bring this to the people I live with, you know? So, like that, we ended up spending some time without having contact with other people (Captain America).*

Concomitantly with the feeling of insecurity and fear, participants were willing to seek information regarding the new reality with a view to quality care.

[...] *we didn't have, at first, training, development. The protocol was changed all the time [...]*  
*I really wanted to have training to do my best* (Storm).

[...] *you think about specializing to be able to provide care* (Iron Man).

The care provided by nursing seems to have gone beyond protocols, demonstrating empathy and solidarity:

[...] *but, we try to provide psychological support, affection; but there are times when we also fail, because it is not easy [...]. I try to do my best [...]. I'm glad I'm helping. Really happy, I play a lot with these patients, because sometimes I realize they are sad* (She-Hulk).

### **COVID-19 traces**

In the same way as the news of the pandemic, the discovery of post-COVID-19 manifestations caused surprise among the unit's professionals:

[...] *I was impressed to see what the virus does to people, what sequels it leaves behind [...]. I was scared* (Wonder Woman).

[...] *first, it's scary! The first impact we have, we are very scared. [...] because it is not something we expected. Because it's a virus, we thought it treated it, it ended, like the flu* (Iron Man).

[...] *sometimes we get really scared, because I know that the patient is very serious and then we see what the virus can do to the patient's body, and then we see that it is a more serious disease, that it is not a normal cold* (Batman).

[...] *thinking that a disease had such an impact on the world, left a person like this, with a problem that may not be reversed* (Captain America).

A variety of symptoms have been reported to manifest after the acute phase of COVID-19:

[...] *young people, who were left with sequels, such as stroke – lost mobility in their hemibody, there are people who lost speech* (Iron Man).

[...] *post-COVID-19 pneumonia appears a lot. Admitted there to be treated with intravenous antibiotics* (Iron Man).

[...] *post-COVID-19 syndrome has already arrived in patients with DVT [...]. Many were left with neurological injuries, there are patients who were admitted to the ECU and the family said, "It wasn't that confusing, it was after COVID-19"* (She-Hulk).

Clinical conditions involving the respiratory system were the most frequent in the care provided by the 24-hour ECU nursing.

[...] *we see people who had COVID-19 months ago and who still have breathing problems [...] in a screening, the patient arrives saying, "Oh, I had COVID-19 five months ago, but I still have a cough"* (Storm).

[...] *sometimes the patient has already passed the time of COVID-19 and arrives there with a worrying picture of pneumonia* (She-Hulk).

### **Knowledge about post-COVID-19 syndrome**

The construction of knowledge by nurses about post-COVID-19 syndrome is still in process and is often based on their own practice and perceptions of other co-workers.

[...] *my knowledge is not the best* (laughs), *but what I learned I saw is the need for my service* (Iron Man).

[...] *he showed up like that, and we had to face him the way he came. And we kept talking to the doctors, asking for guidance, asking coworkers: nobody knew anything, if that was really a post-COVID-19; even the doctors were lost* (Wonder Woman).

[...] *because what we really know is what we experience on a daily basis, and sometimes it's what I read on the internet or when I study. It is knowledge that is still in the learning process* (Batman).

Regarding the offer of training to care for people with post-COVID-19 syndrome, it was informed by the nurses that it has not yet been carried out.

[...] *not post-COVID-19 training* (Wonder Woman). [...] *post-COVID-19 syndrome training did not exist* (Storm).

[...] *we had no course or training to deal with post-COVID-19 cases.* (She-Hulk).

It was evident how much the professionals recognize the importance of assessing the person as a whole and of teamwork.

[...] *now we have to have a critical view; know how to relate the patient's complaints, their clinical history and then give suggestions to the medical team* (Storm).

[...] *I feel like it has to be a joint effort; there has to be the part of psychologist, physiotherapist due to respiratory sequels. In nursing, it is more focused on care, our hands are a bit tied, because it is not just nursing, it should be a whole* (Black Widow).

Despite the lack of training, some participants were concerned about seeking knowledge about sequels and also encouraging the team to move in this direction.

[...] *I think we have to keep looking for knowledge [...] be prepared, because then, it's not the doctor's responsibility to understand everything, we have to be able to have a critical look at the patient to be able to suggest it to the medical team. Encouraging the team to have this critical eye on the patient* (Storm).

[...] *this situation is an incentive for us to study more to be able to care for these patients [...] it is necessary to specialize to know what is being done* (Iron Man).

## Care for post-COVID-19 syndrome

Regarding the care and preparation of the institution to receive people with post-COVID-19 symptoms, participants expressed differing opinions about the preparation of the 24-hour ECU.

[...] *I think so!* (Wonder Woman).

*The unit is prepared to serve these patients! The team is prepared, the unit has support to care for these patients; qualified team* (Storm).

[...] *I think it is a very superficial service that is provided at the ECU* (Iron Man).

*The ECU is able to care for these patients. We have a good team* (She-Hulk).

[...] *I believe we have more basics there, like the first service. I think there is still a lack of knowledge in all parts of professionals* (Batman).

[...] *I'll tell you; I don't see a better place. I am very proud of the institution where I am working* (Captain America).

The municipality in which the 24-hour ECU studied is part has a reference primary care service for care and rehabilitation for people with post-COVID-19 syndrome; however, most participants are unaware of the existence of this unit, and only Iron Man is aware of it.

[...] *as far as I am concerned, it doesn't exist!* (Storm).

[...] *and many people do not even know that there is this service here [...]. So, it was a place that could, how do you say "boost" because there are many professionals there. And it is not a disclosed unit. At the ECU, we could really refer* (Iron Man).

It was also reported that patients are frequently (depending on the need) transferred to a more complex unit.

[...] *we depend on the tertiary system to refer patients. There is no other way* (Wonder Woman).

[...] *the transfer has not taken long. The doctor had the discretion to request the transfer, so they leave [...]* (Storm).

[...] *the doctors who assist these patients do not usually discharge them straight home from the ECU; they usually ask for a vacancy. Or when the patient is stable, they ask for an assessment of the Melhor em Casa (She-Hulk) program.*

[...] *generally, they ask for a place and refer these patients to the tertiary sector [...]. Generally, it's coming out faster* (Batman).

[...] *the ECU should have a better connection with the BHU team, in order to better refer these cases* (Black Widow).

[...] *the transfer to a tertiary network is being faster* (Captain America).

## DISCUSSION

From the reports, it was possible to perceive that nurses did not expect to experience a pandemic of such magnitude, and, when faced with the virus, they expressed surprise and a feeling of insecurity. During a pandemic, professionals are expected to show a state of alertness, excessive concern, stress and lack of control in the face of uncertainties<sup>4,19-20</sup>, generating a context of social disorder<sup>21</sup>. On the other hand, the profession gained some visibility compared to the devaluation faced since the beginning<sup>22</sup>.

Participants reported fear of the coronavirus and, at the same time, concern about seeking knowledge and providing quality care. The new situation imposed brought health professionals, especially nurses, challenges associated with work and the search for knowledge, due to the need to be exposed to a highly contagious and unknown virus, shortage of personal protective equipment (PPE), frequent changes in organizational protocols and increased demands for care, in addition to the emotional distress experienced<sup>23</sup>.

Professionals also showed concern about maintaining a close relationship with their loved ones, due to the fear of transmitting the disease and possible guilt if it happened. Faced with the COVID-19 pandemic and the ease with which SARS-CoV-2 spreads, the nursing team was often discouraged from interacting with their family members and people who were part of their circle of coexistence, in order to avoid the risk of contagion<sup>24</sup>. This context generated feelings of boredom, exhaustion, loneliness, insecurity and abandonment as well as anxiety and depression<sup>21-22</sup>. Other infectious outbreaks also caused such developments, such as the Ebola virus epidemic in 1995 and the Severe Acute Respiratory Syndrome in 2003<sup>4</sup>.

During the period experienced, the positive involvement of the studied class stands out, showing flexibility and adaptability to new requirements, revealing a true professional commitment, even with activities in ECU. Added to this, there is also the care beyond the pathology, which the nurses offered to the people assisted, agreeing with the premise that professionals provide spiritual support, provide psychological support and try to alleviate users' anxiety in some way<sup>25</sup>. On the other hand, the pandemic scenario accentuated the most diverse risks and problems faced by nursing, such as work overload, absenteeism and devaluation<sup>23</sup>. However, the commitment to the biopsychosocial care of patients with the disease and their families remained constant<sup>19,23</sup>, as evidenced in She-Hulk's speech about trying to do the best for patients.

It becomes evident, given the scenario presented, that it is not a simple flu, which was also perceived by the participants of this study. In addition to this pathology having resulted in thousands of deaths, people who overcome the infection have been faced with sequels that compromise their activities of daily living and work<sup>26</sup>.



In the present study, professionals cited a variety of symptoms experienced, including neurological and vascular problems, such as stroke and deep vein thrombosis (DVT), which were also previously identified<sup>6</sup>. In addition to these, research<sup>5,10-13</sup> also mention anxiety, depression, sleep disorders, sexual dysfunction, changes in glucose metabolism, hyperlipidemia and reduced lung capacity. This new reality adds to the social, cultural, political, economic and emotional issues of each person<sup>11</sup>.

Psychiatric symptoms (depression, anxiety, cognitive impairment) are believed to have a multifactorial origin and may include the direct effects of viral infection as well as being consequences of isolation<sup>5</sup>. A situation that has been widely cited in the literature<sup>2,27</sup> it's called "brain fog," which was also described by She-Hulk as confusion after illness. Coping with a pandemic causes various disorders, whether physical, social, or even emotional<sup>12</sup>.

The nurses participating in the study reported the care of many cases of pneumonia, cough and fatigue after the acute infection of COVID-19. This seems to corroborate the fact that, among the affected organs, the one with the highest complication rate is the lung<sup>3</sup>. This is the organ where sequels are most significant and evident, such as pulmonary fibrosis, abnormal lung function and even embolism<sup>3</sup>.

There are still few reviewed studies examining the occurrence or prevalence of long-term sequels associated with COVID-19<sup>10</sup>. However, participants' reports seem to show that the persistent symptoms or those that appear after the disease have frequently appeared.

According to the reports of the participants of this research, the information about the symptoms and post-acute phase care has been built according to the experiences and exchanges of experiences with other professional categories, which is also reported in a study<sup>27</sup> that points out that professional knowledge and experience shape the understanding of the disease. This interaction and exchange of knowledge among workers, enabling the construction of understanding about post-COVID-19 syndrome, is in line with the proposal of social constructionism that emphasizes discourses and dialogic exchange<sup>18</sup>. It is also noteworthy that the clinical knowledge and experience of health professionals are important resources both for the provision of health services and research<sup>5,11</sup>.

The difficulty in managing people with post-COVID-19 syndrome in the 24-hour ECU is due to the lack of a specific protocol and team training. Workers need to be equipped, based on institutional planning that offers continuous training, to deal with the exceptionality of the new pathology<sup>19</sup> as well as with the disabilities and morbidity that it can cause<sup>14</sup>.

Despite the lack of training and protocols on the management of people with post-COVID-19 syndrome, it is observed that professionals were able to provide care even with difficulties, based on pre-existing knowledge experienced on a daily basis and the exchange of experiences with other employees, which can be explained by social constructionism, since human beings build knowledge through daily experiences and social interactions, especially with more experienced individuals<sup>17</sup>.

Nurses also demonstrated the relevance of a multidisciplinary assistance for care. Although current evidence is limited, most people with post-COVID-19 syndrome are expected to recover through a holistic approach, requiring the inclusion of a person-centered multidisciplinary team<sup>5,11</sup> and adapted to their needs<sup>14</sup>.

Social constructionism complements the present findings, mainly with regard to the importance of multidisciplinary assistance, since teamwork provides the exchange of experiences and knowledge through social interactions that are able to strengthen the construction of knowledge and clinical practice<sup>17</sup>.

Most professionals participating in the present research were not aware of the reference unit for the care and rehabilitation of people with post-COVID-19 syndrome in the municipality, composed

of a multidisciplinary team (doctors, neurologists, nurses, physiotherapists, speech therapists). In the city of Maceió, a unit was also created for the specific care of people with sequels<sup>28</sup>. A previous study also pointed out the lack of knowledge of doctors from local rehabilitation services<sup>29</sup>. The possible lack of disclosure about the services offered by the network seems to partially explain professionals' lack of knowledge. In any case, organizations of health systems for the post-pandemic period are necessary, in order to minimize the overload of urgent and emergency services<sup>14</sup>, since the growing number of people with sequels represents a greater financial and functional burden for the health system<sup>27</sup>.

It is noteworthy that the present research contributed to identify the competence of the nursing team in seeking the best care for users. In addition to addressing, even if indirectly, the importance of teamwork, where there is mutual respect and exchange of experiences.

The present study presents as a limitation the fact that the transcribed data were not returned to participants for validation. Moreover, the survey covered only the nurses who worked in the respiratory symptoms ward of the unit, being carried out in only one of the 24-hour ECU in the municipality, which was a limiting factor. People may have post-COVID-19 symptoms that are unrelated to respiratory conditions, but may be sequels of the disease caused by the coronavirus, being treated in the ward for different clinical conditions. Therefore, future work is suggested that has a greater coverage of other sectors and professionals.

## CONCLUSION

The findings of this study allowed listing four categories that showed that the COVID-19 pandemic emerged as something unexpected, challenging and frightening for nursing professionals. Furthermore, this period was associated with lack of knowledge about the post-COVID-19 syndrome about signs and symptoms, nursing care, referral and rehabilitation services, since there was no training and protocols provided by ECU, which made professionals feel afraid, worried, insecure and sought dialogues with other collaborators and individual updates to support clinical practice.

## REFERENCES

1. Al-Aly Z, Xie Y, Bowe B. High-dimensional characterization of post-acute sequelae of covid-19. *Nature* [Internet]. 2021 [cited 2022 Aug 12];594(7862):259-64. Available from: <https://doi.org/10.1038/s41586-021-03553-9>
2. Castro APCR, Nascimento JS, Palladini MC, Pelloso LRCA, Barbosa MHL. Dor no paciente com Síndrome Pós-Covid-19. *Rev Cient HSI* [Internet]. 2021 [cited 2022 Dec 10];5(2):56-62. Available from: <https://doi.org/10.35753/rchsi.v5i2.204>
3. Silveira MAA, Martins BA, Chamon LSF, Diniz AED, Assis JB, Ferreira LDT, et al. Aspectos das manifestações da síndrome pós-COVID-19: uma revisão narrativa. *REAS* [Internet]. 2021 [cited 2022 Nov 12];13(12):e9286. Available from: <https://doi.org/10.25248/reas.e9286.2021>
4. Schmidt B, Crepaldi MA, Bolze SDA, Neiva-Silva L, Demenech LM. Mental health and psychological interventions during the new coronavirus pandemic (COVID-19). *Estud Psicol* [Internet]. 2020 [cited 2022 Oct 11];37:e200063. Available from: <https://doi.org/10.1590/1982-0275202037e200063>
5. Pavli A, Theodoridou M, Maltezou HC. Post-COVID Syndrome: incidence, clinical spectrum, and challenges for primary healthcare professionals. *Arc Med Res* [Internet]. 2021 [cited 2022 Aug 10];52(6):575-81. Available from: <https://doi.org/10.1016/j.arcmed.2021.03.010>
6. Salci MA, Facchini LA. The challenges of syndrome Post COVID-19 for science. *Saúde Colet (Barueri)* [Internet]. 2021 [cited 2022 Jun 12];11(65):5844–5. Available from: <https://doi.org/10.36489/saudecoletiva.2021v11i65p5844-5845>

7. Wu M. Post-Covid-19 syndrome - Literature review: cautions after Covid-19 symptoms improvement. *Rev Biociências* [Internet]. 2021 [cited 2022 Sep 15];27(1):1-14. Available from: <http://periodicos.unitau.br/ojs/index.php/biociencias/article/view/3313/2034>
8. Rajan S, Khunti K, Alwan N, Steves C, Greenhalgh T, MacDermott N, et al. In the wake of the pandemic: preparing for long COVID [Internet]. Copenhagen (DK): World Health Organization; 2021 [cited 2022 Aug 08]. Available from: <https://apps.who.int/iris/bitstream/handle/10665/339629/Policy-brief-39-1997-8073-eng.pdf>
9. Martín-Garrido I, Medrano-Ortega FJ. Más allá de la infección aguda por SARS-CoV-2: un nuevo desafío para la Medicina Interna. *Rev Clín Esp* [Internet]. 2022 [cited 2023 May 01];222(3):176-9. Available from: <https://doi.org/10.1016/j.rce.2021.09.005>
10. Grendene CS, Gulo RB, Betiol RSM, Puglisi MA. Coronavírus (covid-19): história, conhecimento atual e sequelas de longo prazo. *Rev Corpus Hippocrat* [Internet]. 2021 [cited 2022 Nov 12];1(1):1-14. Available from: <https://revistas.unilago.edu.br/index.php/revista-medicina/article/view/451>
11. Ostolin TLVP, Miranda RAR, Abdala CVM. Mapa de evidências sobre sequelas e reabilitação da covid-19 pós-aguda: uma versão atualizada em julho de 2022. *Rev Panam Salud Publica* [Internet]. 2023 [cited 2023 May 17];47:e30. Available from: <https://doi.org/10.26633/RPSP.2023.30>
12. Hu B, Ruan Y, Liu K, Wei X, Wu Y, Feng H, et al. A Mid-to-long term comprehensive evaluation of psychological distress and erectile function in COVID-19 Recovered Patients. *J Sex Med* [Internet]. 2021 [cited 2022 Sep 19];18(11):1863-71. Available from: <https://doi.org/10.1016/j.jsxm.2021.08.010>
13. Damiano RF, Caruso MJG, Cincoto AV, Rocca CCA, Serafim AP, Bacchi P, et al. Post-COVID-19 psychiatric and cognitive morbidity: Preliminary findings from a Brazilian cohort study. *Gen Hosp Psychiatry* [Internet]. 2022 [cited 2022 Oct 13];75:38-45. Available from: <https://doi.org/10.1016/j.genhosppsych.2022.01.002>
14. Daniel CR, Baroni MP, Ruaro JA, Fréz AR. Are we looking at post-COVID patients as we should? *Rev Pesq Fisio* [Internet]. 2020 [cited 2022 Nov 12];10(4):588-90. Available from: <https://doi.org/10.17267/2238-2704rpf.v10i4.3238>
15. Spink MJ. Práticas discursivas e produção de sentidos no cotidiano: Aproximações teóricas e metodológicas. Rio de Janeiro: Centro Edelstein de Pesquisas Sociais; 2013.
16. McNamee S. Relational research (trans)forming practices. In: Ochs M, Borcsa M, Schweitzer J, editors. *Linking systemic research and practice – Innovations in paradigms, strategies and methods*. New York: Springer International; 2020. p. 1-17.
17. Rasera EF, Guanaes-Lorenzi C. The therapist as a knowledge producer: social constructionist's contributions. *Nova Perspect Sist* [Internet]. 2021 [cited 2022 Jun 08];30(69):7-16. Available from: [http://pepsic.bvsalud.org/scielo.php?pid=S0104-78412021000100002&script=sci\\_abstract&lng=en](http://pepsic.bvsalud.org/scielo.php?pid=S0104-78412021000100002&script=sci_abstract&lng=en)
18. Spink MJ. Ser fumante em um mundo antitabaco: reflexões sobre riscos e exclusão social. *Saude Soc* [Internet]. 2010 [cited 2022 Nov 12];19(3):481-96. Available from: <https://doi.org/10.1590/S0104-12902010000300002>
19. Quadros A, Fernandes MTC, Araujo BR, Caregnato RCA. Desafios da enfermagem brasileira no combate da Covid-19. *Enferm Foco* [Internet]. 2020 [cited 2022 Nov 12];11(1):78-83. Available from: <https://doi.org/10.21675/2357-707X.2020.v11.n1.ESP.3748>
20. Piffer L, Schmidt MLG, Massuda Júnior J. Anxiety and depression among nursing professionals at upa during the Covid-19 Pandemic. *PSSA* [Internet]. 2021 [cited 2022 Aug 25];13(3):173-85. Available from: <https://doi.org/10.20435/pssa.v13i3.1565>
21. Moreira WC, Sousa ARD, Nóbrega MPSS. Mental illness in the general population and health professionals during COVID-19: a scoping review. *Texto Contexto Enferm* [Internet]. 2020 [cited 2023 Jan 02];29:e20200215. Available from: <https://doi.org/10.1590/1980-265X-TCE-2020-0215>

22. Rojas L, Hernández Vargas JA, Trujillo-Cáceres SJ, Romero Guevara SL. Contribution of nursing research to fighting against COVID-19 pandemic. A systematic review. *Rev Cuid* [Internet]. 2022 [cited 2023 Jan 17];13(2):e2545. Available from: <https://doi.org/10.15649/cuidarte.2545>
23. Borges EMN, Queirós CML, Vieira MRFSP, Teixeira AAR. Perceptions and experiences of nurses about their performance in the COVID-19 pandemic. *Rev Rene* [Internet]. 2021 [cited 2022 May 10];22:e60790. Available from: <https://doi.org/10.15253/2175-6783.20212260790>
24. Toso BRGO, Terre BRBF, Silva ACO, Gir E, Caliari JS, Evangelista DR. Prevenção adotada no convívio familiar por profissionais de saúde na pandemia da Covid-19. *Rev Hist* [Internet]. 2023 [cited 2023 May 02];56:e20210330. Available from: <https://www.revistas.usp.br/revhistoria/article/view/194272>
25. Bajwah S, Wilcock A, Towers R, Costantini M, Bausewein C, Simon ST, et al. Managing the supportive care needs of those affected by COVID-19. *Eur Resp J* [Internet]. 2020 [cited 2023 May 02];55(4):2000815. Available from: <https://doi.org/10.1183/13993003.00815-2020>
26. Aguiar PL, Correia AB, Nascimento LS, Nascimento JSG, Amorin GC, Bernardinelli FCP. Principais complicações da Covid-19 e implicações futuras: revisão integrativa. *R Enferm Cent O Min* [Internet]. 2022 [cited 2023 May 02];12:e4406. Available from: <http://www.seer.ufsj.edu.br/recom/article/view/4406>
27. Scordo KA, Richmond MM, Munro N. Post-COVID-19 syndrome: theoretical basis, identification and management. *AACN Adv Crit Care* [Internet]. 2021 [cited 2022 Dec 12];32(2):188-94. Available from: <https://doi.org/10.4037/aacnacc2021492>
28. Geronimo AMM, Comassetto I, Andrade CRAG, Silva RRSM da. Além do SARS-CoV-2, as implicações da Síndrome Pós Covid-19: o que estamos produzindo?. *Res Soc Dev* [Internet]. 2021 [cited 2023 Jun 6];10(15):e336101522738. Available from: <https://doi.org/10.33448/rsd-v10i15.22738>
29. Ladds E, Rushforth A, Wieringa S, Taylor S, Rayner C, Husain L, et al. Persistent symptoms after Covid-19: qualitative study of 114 “long Covid” patients and draft quality principles for services. *BMC Health Serv Res* [Internet]. 2020 [cited 2022 Nov 12];20(1):1144. Available from: <https://doi.org/10.1186/s12913-020-06001-y>

## NOTES

### ORIGIN OF THE ARTICLE

Extracted from the dissertation “*Percepções de enfermeiros sobre a Síndrome Pós-Covid*”, presented to the Graduate Program in Psychology, at the *Universidade Federal do Triângulo Mineiro*, with a defense scheduled for 2023.

### CONTRIBUTION OF AUTHORITY

Study design: Silva AM, Ferreira CB.

Data collection: Silva AM.

Data analysis and interpretation: Silva AM, Ferreira CB.

Discussion of results: Silva AM, Ferreira CB.

Writing and/or critical review of content: Silva AM, Ferreira CB.

Review and final approval of the final version: Ferreira CB.

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### APPROVAL OF ETHICS COMMITTEE IN RESEARCH

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### CONFLICT OF INTEREST

There is no conflict of interest.

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