

Strategies in coping with the COVID-19 pandemic by nursing professionals: doing and learning

Valdenir Almeida da Silva¹, Rosana Santos Mota¹, Andreia Santos Mendes¹, Angela de Souza Barros¹, Jamile Moreira Machado de Souza¹ and Joselina Sant'ana Brito¹

¹University Hospital Professor Edgard Santos, Federal University of Bahia, Brazil

Abstract

Objective: To describe strategies in coping with the COVID-19 pandemic adopted by nursing professionals.

Method: Qualitative research conducted in a public teaching hospital in Salvador – Bahia, Brazil, between September and October 2020. A total of 17 nursing professionals who work in a reference unit for symptomatic respiratory patients were interviewed. Data were collected through semi-structured interviews and analyzed in the IRAMUTEQ software. The project was approved by a Research Ethics Committee. **Results:** nursing professionals developed strategies to cope with the pandemic to care for patients with COVID-19, their own family members, the team and themselves. For patients, the strategies adopted include greater concern for comfort, safety and improvements in the communication process. The distancing of family members has given rise to the need for the use of technological resources to favor approximation. A greater concern was identified with the protection of team members and with themselves, as they emphasized the correct use of personal protective equipment as a way to feel more protected and safe, including emotionally. **Conclusion:** The strategies developed by the professionals emerged from the practice to the extent that they were experiencing care to patients with COVID-19. These strategies aimed to adopt measures for self-protection, protection of their family members and team colleagues; and humanized patient care.

Descriptors: Coronavirus infections; Nursing; Patient care; University hospital; Nursing care.

1. Introduction

Crises can be understood as opportunities for the search for advances and overcoming the challenges posed. To this end, overcoming actions need to be anchored in scientific knowledge, common sense and the ability to critically analyze the situation. In the pandemic scenario, nursing is constantly challenged to look at the world in a broad way, seek interrelations between sectors of society, extrapolate the limits of health systems¹ and aggregate different knowledge to cope with unexpected situations.

Nursing professionals represent the majority of all health workers.² There are approximately 28 million professionals in this field of health, of whom about 30% work in the Americas region.³

Authors point out that these workers are central in efforts to prevent and confront COVID-19,^{2,4} not

Strategies in coping with the COVID-19 pandemic by nursing professionals: doing and learning

only in numerical terms, but by frontline work and the demonstrated ability to propose strategies that contribute to improvements to health care processes.⁴ The pandemic context enhances the sense of duty, dedication to care and personal sacrifice, bringing up issues such as concern for personal and family security, fear and a sense of vulnerability. Nursing professionals have faced the risks arising from experience during the pandemic even with significant impacts on their lives, such as stress and anxiety.⁵

In view of the need for isolation, the feeling of loneliness and its consequences on mental health were inevitable, requiring the discovery of ways to face it. Thus, strategies such as the use of digital technologies constituted a bridge for the shortening of distances.⁶ However, the implementation of diverse resources to favor better reception of patients, to protect themselves, protect their families and colleagues also stood out as fundamental.

Studies that consider perceptions and experiences in the face of nursing work in the pandemic are important for shedding light on actions and innovations initiated in this field of professional activity, sometimes invisible. As it is a new condition, it is important to explore not only the clinical aspects of infection by the new coronavirus, but also the perception and knowledge of nursing professionals who work at risk in chaotic environments⁷ and are required to implement safe care, even if they are sometimes immersed in unsafe working conditions. Thus, this article aims to describe strategies in coping with the COVID-19 pandemic adopted by nursing professionals.

2. Materials and method

This is a qualitative research conducted in a public teaching hospital, located in Salvador – Bahia, Brazil. The choice of the field for research was because this is a teaching hospital and thus, its practices should be situated beyond care, serving as an opportunity for the development of learning through teaching and research. In the context of the pandemic by the new coronavirus, the hospital was not classified as a reference for the reception and treatment of patients with COVID-19. However, it allocated specific support units for the reception of hospitalized patients with suspected respiratory syndrome. Thus, it was necessary to structure the service and deploy a team of nursing professionals to specifically assist these patients.

The research was conducted with 17 nursing professionals (09 nurses and 17 nursing technicians) between September and October 2020, working in a reference unit for symptomatic respiratory patients. Data were collected through semi-structured interviews, which were recorded after the participants' written consent. In total, 26 professionals worked in the unit chosen for the research, 09 nurses and 17 nursing technicians. We included professionals who worked in the care of patients with COVID-19 and excluded those who were on vacation or leave during the period of data collection. To define the number of participants, the criterion of theoretical saturation was used, when no more new elements appear in the interviews and it is already possible to understand the object under study.^{8,9}

The interviews were conducted through a predefined script, containing fundamental questions that allowed the apprehension and description of aspects related to coping strategies adopted by nursing in the context of the pandemic of the new coronavirus. The data were analyzed using IRAMUTEQ, statistical software used for textual information analysis. The IRAMUTEQ (*Interface de R pour les Analyses*

Strategies in coping with the COVID-19 pandemic by nursing professionals: doing and learning

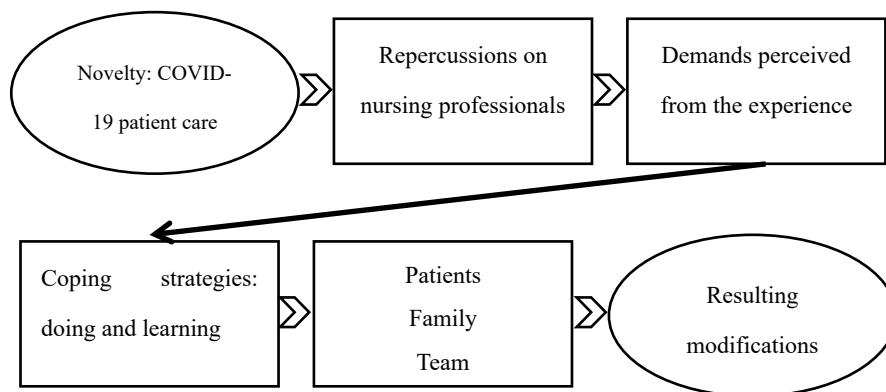
Multidimensionnelles de Textes et de Questionnaires) is a free software licensed by GNU GPL (v2), open source and developed by Pierre Ratinaud in 2009. Statistical rigor is one of the factors that favor the use of IRAMUTEQ and allows the use of different technical resources for the analysis and processing of voluminous textual corpus.¹⁰ For this research, the Descending Hierarchical Classification (CHD) was used with the description and analysis of the lexical class called strategies to cope with the COVID-19 pandemic by nursing professionals: doing and learning.

The project was approved by a Research Ethics Committee (CEP) obtaining a favorable opinion through CAAE number: 36841720.0.0000.0049. All participants signed the Free and Informed Consent Form (TCLE) and, in the results, are identified by the order number of the interview followed by the identification of the professional category (NT – nursing technicians; Nur – nurses).

3. Results

The results obtained show how the participants developed strategies to cope with the pandemic of the new coronavirus and to care for patients with COVID-19. In addition, they also show an adaptive path of conformation of practices to the emerging reality capable of providing greater emotional security. Figure 01 summarizes the results obtained.

Figure 1: Strategies in coping with the COVID-19 pandemic adopted by nursing professionals: doing and learning



At the outbreak of the health emergency, the professionals felt the repercussions of dealing with a situation previously unknown. According to the reports, there were emotional manifestations such as fear, insecurity, apprehension and loneliness, reflecting psychological exhaustion, in addition to effects on blood pressure control and even physical exhaustion, resulting from tiredness.

Actually, for us, it was a new thing, right?! A new situation with the use of PPE, patient approach and all contact with the patient. For us it was all very new, although we know in theory how it would be, the practice proved quite different, right?! (...) We were very frightened by this new type of service; the girls (*colleagues*) were frightened. (E02 – NT)

So we had some teams that had difficulty yes. I was so psychologically shaken that I asked for help, I asked for help, (...) in the middle of the day I had a period that I was... it gives a psychologically shaken. (...) The pressure went up, I had high blood pressure, it stirred a lot with my emotional, I was very shaken. (E04 –

Nur)

(...) people got more agitated because we were going to get patients. (E06 – Nur)

Then I realized that it's also a physical strain actually, and emotional. If you don't have security, if you don't have balance, it really affects you at that point, of you being weakened as to your care, your self-care. (E09 – Nur)

In the midst of the effects arising from work during the pandemic, the experience of care also required changes in professional practices. Faced with the perception of oneself in the new scenario and the demands departing from the practice, strategies for coping emerged. Such strategies had not been elaborated previously, but according to the reports, they were strengthened as they were "doing and learning". The results show that these strategies were directed to the care of patients, family members themselves, the team and self-protection. Regarding patient care, they started from the perception that they were separated from their families, alone and emotionally shaken. In view of this, they felt the need to think about different forms of care, including with the adoption of more holistic approaches with a view to contemplating subjective aspects. Thus, it was common to report the establishment of better communication with the patient, being more heartily, welcoming and comprehensive in care. Participants also reported greater concern for comfort and safety.

But I started to create strategies during the time I was working with COVID. (E01 - NT)

In fact, no strategy, we end up, because the patients arrive more emotionally shaken, many refusing, saying that we had no disease, we end up taking a different approach, a different reception with the patient, understand?! So we had a different approach, a little more comprehensive, a little warmer, some accepted others not, but were more strategies with the patient (...).The reception a little more comprehensive. Strategy, strategy we did not give to address no, because it ended, I don't know, accepting by osmosis all this situation, ended up happening and was changing. He had no specific strategy for approach, was doing and learning. (E02 – NT)

We tried to give comfort to the patient, a relief, safety. At the whole moment I was so helpful, trying to provide the greatest possible care that was a very difficult time for them, because they saw themselves only, just like this, just with us, the professionals. I couldn't stay. (E03 – NT)

I think it was more this issue of dealing with the psychological of the patient that is fine, but it can get worse and most patients had this awareness of being able to aggravate. (E06 – Nur)

(...) it was this strategy, basically, that I used. Like, having a non-physical contact, a more emotional contact even with the patient. (E10 – NT)

For the participants of the research, the concern with the protection of their family members was a constant. Thus, even in the face of the emotional repercussions felt, they adhered to physical distancing as a way to protect them. The use of technological resources, such as applications for video calls, was a way to soften the feeling of loneliness. Within the scope of the strategies learned, the interviewees also showed greater concern and care with the other team members. As a result, they realized that the group became more cohesive and strengthened.

My part was more familiar, in relation to my mother. I felt a little, I was a little shaken even due to the

Strategies in coping with the COVID-19 pandemic by nursing professionals: doing and learning context. (E13 - NT)

I think the biggest difficulty of the moment was the issue of fear, the fear of you acquiring COVID and taking it to your family. (E15 - Nur)

Care for the colleague. The care at home with the family member, the care with the other. This I developed a lot, expanded. I expanded the care with my colleagues, with my relatives, even strangers. (E16 - NT)

With regard to the strategies developed for self-protection and self-care, it was identified that the participants expressed greater concern with the care of themselves in order to be able to take care of the other. The others, according to the results, are patients, colleagues, their families and even people in the community. In the meantime, it was evident the strong emphasis on the use of personal protective equipment (PPE) and on the correct dressing and undressing as ways to protect themselves.

We started to get together more, one taking care of the other, being careful with the attire, always looking at the colleague, if he was really dressed. (...) It was a moment of union, of strengthening the team. (E03 - NT)

In fact, strategies were the PPE issue. Proper use of PPE, (...) correct use of PPE, dressing and especially undressing, which was something that we were apprehensive about when taking it off. Because when we are putting it on, we imply that we are without (contamination). At the time of withdrawal, which is the most critical moment. You may be infected at that time. (E15 - Nur)

I tried to wear all the vestments that were passed on to us (...) and the same care that we had here, we tried to have on the way out so as not to take them home. (E03 - NT)

(...) the issue of the fear of being contaminated and, thus, the concern with the attire, whether or not one was properly attired. (...) So I see protection as one of the strategies, to be used to protect both myself as a professional and the entire team. (...) It has changed a lot, it has changed a lot. (E04 - Nur)

At the time of dressing up, we policed ourselves a lot. One looked to see if the other was missing something. Then he came back, fixed it. We helped each other a lot. (E16 - NT)

I need to be all dressed up and being careful, right?! From the mask (...) and all care, all fear. (...) I did it so as not to contaminate myself. (E05 - NT)

By adopting the strategies of self-protection and protection of the colleague, they could feel safer not to be emotionally weakened. Emotional balance, in turn, is an important element to prevent the absorption of fears and, consequently, for self-protection. The coping strategies developed by the research participants, according to the results, led to changes in the professionals themselves and in the resulting care. From the experience, it is possible to infer that the professionals felt safer taking care of the patients because they knew how to use PPE correctly. This was also able to provide more tranquility and less fear, revealing adaptability.

So we improved a lot and nowadays we just wear a mask all the time, something we didn't do before (...) it's all the time, wearing a mask all the time. It's glove with the patient, it's always leaving and entering the rooms sanitizing, rubbing alcohol on the hands, so we end up improving, that's notorious. (E02 - NT)

I see myself with another look, with another knowledge. It was a greater learning experience, I feel more secure in taking care of patients with COVID and I believe that I am more secure, less afraid than I was

Strategies in coping with the COVID-19 pandemic by nursing professionals: doing and learning

before. (E04 - Nur)

I think this has changed in most people, the question of dressing up, because before I rarely wore a mask (E06 – Nur)

Today I see more caution and more care, more attention and above all, care. The garments, the biosafety, I take it by myself. Biosecurity, I protect myself to see the patient, my view of COVID before and after is totally opposite. I don't go in without a mask anymore. (E08 - NT)

Professional experience also led to an improvement in care to the extent that the interviewees reported feeling able to evaluate critically ill patients in a more assertive and comprehensive way, understanding more broadly the care needs of the person with COVID-19.

4. Discussion

Authors indicate that nursing professionals represent the largest contingent of health workers around the world and are at the forefront of care in epidemic and pandemic situations. Due to the characteristics of their work, they provide direct care to the patient, with inevitable physical proximity, and this favors a greater exposure to the virus and greater risk of illness. Despite the duty to provide direct care to the patient and the community, the impact of work on these professionals should be taken into account.⁵ During the spread of a new infection, such as COVID-19, uncertainty, anxiety and panic are present in all situations that cause rapid change, especially in those without control.⁴ This reality can be verified in the reports of the participants of this research.

In the context of the pandemic, Brazil stood out as one of the countries with the highest number of deaths and contamination of nursing professionals worldwide, reaching and representing one third of the total number of occurrences.¹¹ In the face of work in the care of patients with COVID-19, issues such as physical and emotional exhaustion have emerged, enhanced by existing issues related to difficulties in the work process.¹ Psychological impacts can have short- and long-term consequences on nurses' personal lives. Thus, the identification of stressors and the offer of coping strategies need to be developed by organizations because it is understood that the quality of nursing care is essential for the health services offered to the community.⁵

Nursing workers work on the front line in the care of patients with COVID-19 in various care services. Their multiple roles proved to be more relevant during the pandemic in areas such as health education, surveillance, prevention, adequacy of institutions and direct patient care⁴. Authors highlight the importance of evaluating the patient's emotional response and identifying cognitive changes in the face of the protective measures implemented and the evolution of the infection. The patient may manifest feelings such as anxiety and fear related to isolation and prognosis of the disease. Thus, ensure emotional stability and obtain effective cooperation when implementing therapeutic interventions; keeping them comfortable during hospitalization and meeting their needs at the time they arise are care strategies that favor coping. Similarly, help in communicating with family members, offering continuous information support, and encouraging family members to actively collaborate in treatment are also highlighted as relevant

Strategies in coping with the COVID-19 pandemic by nursing professionals: doing and learning measures.¹²

The illness by COVID-19 exposes people to a process permeated by fear, anxiety, concern, need to value the patient's opinion and to rethink professional practices and attitudes, valuing the autonomy, integrity and individuality of each person. Care needs to be implemented in such a way that in the relationship, there is an attitude that contributes to coping with fears, uncertainties, anxieties in the face of threats to health and life.¹³

Studies indicate the importance of identifying the health needs of people assisted by the nursing team in the various services. Thus, it is possible to make a better listening and direction of interventions and practices in order to provide assistance consistent with the real demands. In addition to the operational objective of the services, and recognizing the human complexity and momentary vulnerability induced by illness, care with a more humanized and qualified meaning can be achieved.¹⁴ It is also important to help patients and their families in the face of uncertainties and fear in the face of the threatening situation of life, and to implement effective coping strategies.¹⁵

Through nursing practices, it is possible to recognize the human being from the perspective of health, in its multiple dimensions, covering physical, spiritual, social, cultural and historical aspects, contemplating tangible and intangible aspects of the human dimension.¹³ Care is important not only in the technical dimension, but taking into account other dimensions of vulnerable patients and their families.¹⁶

Authors point out that fear and concern about the high risk of contracting the infection have given rise to an ethical and moral dilemma due to the possibility of introducing the virus into their own homes and thus exposing the health of their families.^{5,17} For these professionals, there are impacts on the psychological state due to the separation of the family and those emerging from the work process.⁵

The literature highlights that the sense of strengthening bonds among co-workers is high by recognizing the importance of mutual care. The work in the pandemic, despite being associated with a battlefield, when fulfilled with union between the team, improves the protection of all. Collectivism is demonstrated by the exchange of experiences, greater predisposition to joint work and the encouragement of team spirit.⁵

Working in a multidisciplinary team focused on collaborative care is considered as an important strategy for improving results. Mutual trust and respect is identified as a way of support and strengthening the sense of collegiality. During disaster situations and epidemics, interdependent work, despite stress, and the good relationship between colleagues contribute to improving the quality of care.⁵

For the protection of nursing professionals during the care of patients with COVID-19, the intense educational process for the use of PPE is necessary. In situations of stress or exhaustion, there may be greater exposure of professionals to the forms of transmission of the virus, despite all the training received by the professional.¹⁸ Authors highlight as one of the lessons learned the vital importance of protection through the use of PPE, thinking about the availability in sufficient quantity and the sustainability of this offer. This is relevant due to the need for healthy professionals to maintain patient care. It is also essential that they be trained for the correct use of PPE in order to minimize the risk of contagion.¹⁷

Due to the high infectivity, pathogenicity and mortality of coronavirus, nursing care for critically ill

Strategies in coping with the COVID-19 pandemic by nursing professionals: doing and learning

patients with COVID-19 requires a high standard of knowledge. Thus, it is important to identify and quickly prevent possible complications due to rapid evolution, especially among patients with severe respiratory symptoms.^{12, 16, 19}

In view of the understanding of the patients' needs, self-perception and the look at their families and colleagues, we identified the awareness of doing the best they can, within their abilities. Authors point out that professionals show satisfaction with fulfilling their role in patient care during a pandemic, despite the potential risk of infection.⁵ In agreement with other authors,²⁰ it is clear the adoption of a resilient behavior to the extent that the research participants are not paralyzed in the face of the risks arising from frontline work in the care of patients with COVID-19 and are able to use strategies to deliver the best care to the patient, take care of yourself, your colleagues and protect your family members.

5. Conclusion

The strategies developed in coping with the pandemic adopted by the professionals emerged from the practice as they experienced the care of patients with COVID-19. These strategies aimed to adopt measures for self-protection, protection of their family members and team colleagues; and humanized patient care.

Given the risks arising from occupational exposure, the professionals used the correct use of PPE as a form of self-protection, protection of their families and colleagues. The cooperation between the team was reported as strengthening the bonds and contributed to a better confrontation of the pandemic situation. It was evidenced that the professionals adopted as strategies the search for a more comprehensive, warm welcome, with appreciation of emotional aspects and a greater availability of time for patients. In this way they aimed to ensure more comfort, relief and security in the face of fears and threats to life.

This study has as limitation the fact that it was performed at a specific moment of the pandemic by the new coronavirus, still with knowledge incipience, in the phase of definition of flows, conducts and care routines, with scarcity of PPE, with high morbidity and mortality and without the availability of vaccines. It is assumed that, with the evolution of the pandemic, there was a change in coping strategies and in the perception of professionals. However, it represents this time and its effects on nursing workers at the time when it intends to serve as a warning for the valorization of the pioneering workers in question in the proposition of strategies in crisis situations.

6. References

1. David, H.M.S.L., Acioli, S., Silva, M.R.F., Bonetti, O.P., & Passos, H. (2021). Pandemia, conjunturas de crise e prática profissional: qual o papel da enfermagem diante da Covid-19? *Rev Gaúcha Enferm.* 42(esp):e20190254. DOI: <https://doi.org/10.1590/19831447.2021.20190254>
2. Choi, K.R., Jeffers, K.S., & Logsdon, C.M. (2020). Nursing and the novel coronavirus: risks and responsibilities in a global outbreak. *J Adv Nurs.* 76:1486–1487. DOI: 10.1111/jan.14369
3. Cassiani, S.H.B., Jimenez, E.F.M., Ferreira, A.U., Peduzzi, M., & Hernández, C.L. (2020). La situación de la enfermeira en el mundo y la Región de las Américas en tiempos de la pandemia de

Strategies in coping with the COVID-19 pandemic by nursing professionals: doing and learning

- COVID-19. *Rev Panam Salud Publica*. 44:e64. DOI: <https://doi.org/26633/RPSP.2020.64>
4. Chen, S.C., Lai, Y.H., & Tsay, S.L. (2020). Nursing perspectives on the impacts of COVID-19. *The Journal of Nursing Research*. 28(3), e85. DOI: 10.1097/jnr.0000000000000389
 5. Fernandez, R., Lord, H., Halcomb, E., Moxham, L., Middleton, R., Alananzeh, I., & Ellwood, L. (2020). Implications for COVID-19: a systematic review of nurses' experiences of working in acute care hospital settings during a respiratory pandemic. *International Journal of Nursing Studies*. 111, 103637. DOI: 10.1016/j.ijnurstu.2020.103637
 6. Galea, S., Merchant, R.M., & Lurie, N. (2020). The mental health consequences of COVID-19 and physical distancing. The need for prevention and early intervention. *JAMA Internal Medicine*. 180(6):817-818. DOI:10.1001/jamainternmed.2020.1562
 7. Hashmi, F.K., Iqbal, Q., Haider, S., Ahmed, F.D., Saleem, F., & Bashaar, M. (2020). Response to and perception of nurses during the COVID-19: a qualitative assessment. *Research Square*. DOI: <https://doi.org/10.21203/rs.3.rs-26270/v1>
 8. Fontanella, B.J.B., & Magdaleno, J.R. (2012). Saturação teórica em pesquisas qualitativas: contribuições psicanalíticas. *Psicol Estudo* [Internet]. 17(1):1763-71. Available from: <http://www.redalyc.org/articulo.oa?id=287123554008>. Acesso em jun 26, 2022.
 9. Nascimento, L.C.N., Souza, T.V., Oliveira, I.C.S., Moraes, J.R.M.M., Aguiar, R.C.B., & Silva, L.F. (2018). Theoretical saturation in qualitative research: an experience report in interview with schoolchildren. *Rev Bras Enferm*. 71(1):228-33. <https://doi.org/10.1590/0034-7167-2016-0616>
 10. Camargo, B.V., & Justo, A.M. (2018). Tutorial para uso do software de análise textual IRAMUTEQ. Universidade Federal de Santa Catarina. *Laboratório de Psicologia Social da Comunicação e Cognição – LACCOS*. UFSC. Available from: <http://iramuteq.org/documentation/fichiers/tutoriel-portugais-22-11-2018>>. Acesso em: feb 02, 2022.
 11. COFEN. *Conselho Federal de Enfermagem*. Brasil responde por 30% das mortes de profissionais de Enfermagem por covid-19. Brasília: COFEN, 2020. Disponível em: http://www.cofen.gov.br/brasil-responde-por-um-terco-das-mortes-de-profissionais-de-enfermagem-por-covid-19_84357.html. Acesso em feb 18, 2022.
 12. Wang, H., Zeng, T., Wu, X., & Sun, H. (2020). Holistic care for patients with severe coronavirus disease 2019: an expert consensus. *International Journal of Nursing Sciences*. 7:128-134. DOI: 10.1016/j.ijnss.2020.03.010
 13. Paula, P.H.A., Pinheiro, P.N.C., Mondragón-Sánchez, E.J., Costa, M.I.F., Rodrigues, I.P., & Dourado, J.V.L. (2020). As dimensões do ser humano e o cuidado de enfermagem no contexto pandêmico da COVID-19. *Esc Anna Nery*. 24(spe):e20200321. DOI: <https://doi.org/10.1590/2177-9465-EAN-2020-0321>
 14. Petersen, C.B., Lima, R.A.G., Boemer, M.R., & Rocha, S.M.M. (2016). Health needs and nursing care. *Rev Bras Enferm* [Internet]. 69(6):1168-71. DOI: <http://dx.doi.org/10.1590/0034-7167-2016-0128>
 15. Canova-Barrios, C., & Salvador, S. (2020). Cuidados de enfermería en la infección por covid-19: y

Strategies in coping with the COVID-19 pandemic by nursing professionals: doing and learning

entonces, ¿cómo procedemos? *Cuidados de Enfermería y Educación en Salud*. 5(1):37-51. DOI: 10.15443/ceyes.v5i1.1256

16. Lahite-Savón, Y., Céspedes-Pereña, V., & Maslen-Bonnane, M. (2020). El desempeño del personal de Enfermería durante la pandemia de la COVID-19. *Rev Inf Cient*. 99(5):494-502. Disponible en: <http://www.revinfcientifica.sld.cu/index.php/ric/article/view/3086>
17. Bagnasco, A., Zanini, M., Hayter, M., Catania, G., & Sasso, L. (2020). COVID-19 - A message from Italy to the global nursing community. *J Adv Nurs*. 00:1–3. DOI: 10.1111/jan.14407
18. Huang, L., Lin, G., Tang, L., Yu, L., & Zhou, Z. (2020). Special attention to nurses' protection during the COVID-19 epidemic. *Critical Care*. 24:120. <https://doi.org/10.1186/s13054-020-2841-7>
19. Zhang, H., Yin, L., Peng, Y., Chen, Q., Lv, C., Juan, L., et al. (2020). A qualitative study on the inner experience of first-line nurses in the clinical fight against COVID-19. *Research Square*. DOI: <https://doi.org/10.21203/rs.3.rs-33438/v1>
20. Smith, G.D., Ng, F., & Cheung, W.H. (2020). COVID-19: Emerging compassion, courage and resilience in the face of misinformation and adversity. *J Clin Nurs*. 29:1425–1428. DOI: 10.1111/jocn.15231 wileyonlinelibrary.com/journal/jocn