








Burnout syndrome in nursing professionals in the context of the COVID-19 pandemic

Síndrome de Burnout em profissionais de enfermagem no contexto da pandemia de COVID-19

How to cite this article:

Souza PM, Alves JG, Mendonça GUG, Araújo MM, Bezerra CF, Silva JWM, et al. Burnout syndrome in nursing professionals in the context of the COVID-19 pandemic. Rev Rene. 2023;24:e91947. DOI: <https://doi.org/10.15253/2175-6783.20232491947>

-  Priscila Moreira de Souza¹
 José Gerefeson Alves²
 Glícia Uchôa Gomes Mendonça¹
 Moziane Mendonça de Araújo³
 Camila Fonseca Bezerra¹
 José Wagner Martins da Silva⁴
 Olga Feitosa Braga Teixeira⁵

¹Universidade Regional do Cariri. Iguatu, CE, Brazil.

²Universidade da Integração Internacional da Lusofonia Afro-Brasileira. Redenção, CE, Brazil.

³Universidade Federal do Ceará. Iguatu, CE, Brazil.

⁴Universidade Estadual do Ceará. Iguatu, CE, Brazil.

⁵Universidade Federal de Campina Grande. Cajazeiras, PB, Brazil.

Corresponding author:

José Gerefeson Alves

Rua Josué Castelo Branco, 104, Centro

CEP: 62790-000. Redenção, CE, Brazil.

E-mail: gerfesondip@gmail.com

Conflict of interest: the authors have declared that there is no conflict of interest.

EDITOR IN CHIEF: Ana Fatima Carvalho Fernandes

ASSOCIATE EDITOR: Ana Luisa Brandão de Carvalho Lira

ABSTRACT

Objective: to investigate the prevalence of Burnout Syndrome in nursing workers during the COVID-19 pandemic. **Methods:** cross-sectional study using instruments to collect sociodemographic and professional data and the Maslach Burnout Inventory. The population was formed by 52 nursing workers from three institutions that attend patients with COVID-19. The sampling was by convenience, and workers were contacted via email or WhatsApp®. We compared the means of each domain using Student's t-test, considering the variables from the Maslach Burnout Inventory, namely, emotional exhaustion, depersonalization, and effectiveness at work. **Results:** the overall mean Burnout was 3.21. The differences between the means of emotional exhaustion and personal accomplishment domains were significant for the variables "would change jobs" ($p < 0.04$) and "job satisfaction" ($p < 0.001$). **Conclusion:** Workers had a high level of Burnout, being thus susceptible to mental suffering and psychic disease. **Contributions to practice:** the knowledge produced here can provoke reflections that will help develop and apply strategies to reduce the negative impact of the Burnout Syndrome in the health of the nursing professional. **Descriptors:** Nurse Practitioners; Burnout, Psychological; Burnout, Professional; Pandemics; COVID-19.

RESUMO

Objetivo: investigar a ocorrência da Síndrome de Burnout em profissionais de enfermagem durante a pandemia de COVID-19. **Métodos:** pesquisa transversal, utilizando instrumentos contendo dados sociodemográficos e profissionais e a Escala *Maslach Burnout Inventory*. A população foi composta por 52 profissionais de enfermagem que atuaram em três instituições de saúde que atendiam pacientes com COVID-19. A amostragem foi por conveniência e os profissionais foram contatados por e-mail ou WhatsApp®. Compararam-se as médias de cada domínio pelo teste t de Student, segundo as variáveis presentes na escala *Maslach Burnout Inventory*, a saber, exaustão emocional, despersonalização e eficácia no trabalho. **Resultados:** a média geral de Burnout obtida foi de 3,21. As diferenças de médias dos domínios exaustão emocional e eficácia no trabalho foram significativas nas variáveis "mudaria de emprego" ($p < 0,04$) e "satisfação com o trabalho" ($p < 0,001$). **Conclusão:** os profissionais apresentaram alto nível de Burnout, mostrando que os trabalhadores estão suscetíveis à ocorrência de sofrimento mental e doenças psíquicas. **Contribuições para a prática:** o conhecimento advindo da pesquisa poderá gerar reflexões que proporcionarão o desenvolvimento e aplicação de estratégias que visem reduzir os impactos negativos da Síndrome de Burnout na saúde do profissional de enfermagem. **Descritores:** Profissionais de Enfermagem; Esgotamento Psicológico; Esgotamento Profissional; Pandemias; COVID-19.

Introduction

Many categories of health professionals had to be mobilized in the struggle against the pandemic of the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). The ease with which the virus spread, the exponential increase in morbidity and mortality rates, and the heavy burden of responsibility and work form a concerning setting that can lead to disease and is responsible for work stress and other implications to the health of professionals⁽¹⁻³⁾.

In the pandemic context, the number of persons whose mental health is compromised tends to be larger than that of people affected by the infection, to the point of exceeding the number of deaths caused by the disease. In the current settings, many symptoms of suffering were observed in health workers⁽⁴⁾. The work environment, the high risk of virus infections, and the excessive demands from patients that need attention cause diseases that affect professional life⁽⁵⁾.

Among health workers in the front lines of the struggle against the pandemic, nurses stood out, as they tirelessly fulfilled their duty of preserving people's lives in the different levels of care. Several factors may have contributed for nursing work during the pandemic to be unsafe and distressing, such as: permanent risk of contamination, exhaustive workloads, constant proximity with death, distance from family and friends, in addition to precarious working conditions, and others⁽⁶⁾.

This period, with unprecedented consequences for the mental and physical health of the world's population, coupled with conflicting feelings of insecurity, fear, anguish and powerlessness, not to mention work overload, predisposed nursing workers to the levels of stress that trigger Burnout Syndrome. This syndrome is characterized by exhaustion, depersonalization, and a diminished sense of personal accomplishment⁽⁷⁻⁹⁾.

Burnout Syndrome, also known as mental and professional exhaustion syndrome, is a psychosocial disease that emerges as a reaction to interpersonal stressors related to the work environment. This disease has the highest index of psychosocial issues and work stress, a condition made worse during the pandemic⁽¹⁰⁾. It is more likely to affect professionals who play a direct role with human relations and care (nurse, teacher, physician), when compared to other professions. This syndrome is characterized by three domains: emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment. Thus, it affects important aspects of human balance and construction⁽¹¹⁾.

The new coronavirus pandemic had devastating repercussions both for the health system and the professionals who worked in the period, exhausting their physical, emotional, and psychological health⁽¹²⁾. Previous studies show that burnout thresholds of exhaustion and shutdown were, respectively, reached by 85.9% and 83.5% of health workers investigating, showing the generalized impact of coronavirus in health workers. Thus, nurse exhaustion had been a challenge for the health team even before the recent pandemic. Nevertheless, concerning levels of exhaustion were reported as a consequence of the pandemic context⁽¹²⁻¹⁴⁾, and these need to be investigated.

As a consequence, the following research question was produced: What is the impact of the COVID-19 pandemic on the mental health of nursing workers? Thinking and discussing how this pandemic impacted their mental health will contribute to science and to the workers themselves, as it may provide elements to elaborate interventions to maintain or improve quality of life, work, and mental health in these professionals. As a result, our objective was to investigate the prevalence of Burnout Syndrome in nursing workers during the COVID-19 pandemic.

Methods

This is a cross-sectional research in three public health institutions in an inland city of Ceará, Brazil, that attended COVID-19 patients, including one Emergency Care Unit and two medium-sized hospitals.

The study included 52 nursing professionals (nurses and nursing technicians) who worked in these institutions. The sampling was by convenience and inclusion criteria were: being a nursing professional and having worked in the selected institutions since the start of the COVID-19 pandemic and between March 2020 and August 2021. We excluded workers on leave or vacation, and those who did not return the collection instrument within seven days.

Complying with recommendations from the World Health Organization about social distancing measures, data collection took place through the remote application of two instruments created in Google Forms®. Consequently, nursing professionals were contacted via email and/or WhatsApp®.

The first instrument collected information on sociodemographic and professional data (age, sex, marital status, religion, position/function, workplace, job satisfaction, time in the profession and in the current role, change of profession, and stressors). The second instrument was the Maslach Burnout Inventory (MBI), used to identify the Burnout Syndrome when it comes to emotional exhaustion, depersonalization, and effectiveness at work.

To ascertain whether the Burnout Syndrome levels were low, moderate, or high, we used the MBI-GS scale. The score in the scale represents, for Burnout: < 1.33 (low), 1.34 - 2.43 (moderate) and >2.43 (high); for emotional exhaustion: 2.0 (low), 2.1-3.19 (moderate) and >3.20 (high); for cynicism: 1.0 (low), 1.01-2.10 (moderate) and >2.20 (high); and for

work effectiveness: >4.0 (low), 4.0-4.99 (moderate) and >5.0 (high)⁽¹²⁾.

Data were presented in tables including percentages, means, and standard deviations. We used Student's t-test to compare the means of the domains emotional exhaustion, depersonalization, and personal accomplishment, according to the variables sex, profession, change, and job satisfaction. We considered analysis with $p < 0.05$ as statistically significant.

The research was approved by the Research Ethics Committee of the *Universidade Regional do Cariri*, with opinion 5,308,015/2022 and Certificate of Submission for Ethical Appreciation 52025221.1.0000.5055. We also followed ethical and legal recommendations of Resolution 466/2012 of the National Health Council.

Results

Most workers were female (38 - 73.1%), from 20-50 years old, mostly from 20 to 25 (15 - 28.6%), single (27 - 51.9%), and Catholic (38 - 73.1%). 21 (40.4%) were nurses and 31 (59.6%) nursing technicians, having worked, in most cases, from one to three years of service in the health institution (20 - 38.5%). We also found that 20 (38.4%) were graduated or licensed from 2015 to 2020, and 18 (34.6%) had more than 10 years of experience in the area.

When asked whether they would change professions, 19 (55.8%) answered that they would not, and 41 (78.8%) declared they were satisfied with the work at the health institution. 33 (63.5%) did not work elsewhere, claiming that the health service where they worked was their only job (34 - 65.4%)

Regarding the assessments of these professionals about their feelings related to work, certain responses, associated with the 16 items proposed by the MBI, were predominant, as Table 1 shows.

Table 1 – Distribution of number of workers, mean, and standard deviation per question. Iguatu, CE, Brazil, 2022

Variables	n (%)	Mean	Standard deviation
I doubt the significance of my work		0.52	1.27
Never	40 (76.9)		
In my opinion, I am good at my job.		5.62	0.66
Every day	36 (69.2)		
I have accomplished many worthwhile things in this job		5.19	1.34
Every day	34 (65.4)		
I no longer believe as much that my work accomplishes something		1.08	1.89
Never	33 (63.5)		
I became less interested in my work since I assumed this role		1.27	1.96
Never	32 (61.5)		
In my work, I feel confident that I am efficient and able to make things happen		5.38	0.96
Every day	30 (57.7)		
I feel energized when I accomplish something at work		4.98	1.61
Every day	29 (55.8)		
I feel I am effectively contributing to this organization		5.13	1.10
Every day	27 (51.9)		
I became less enthusiastic about my work		1.77	2.05
Never	22 (42.3)		
I just want to do my job and not be bothered		2.27	2.39
Never	18 (34.6)		
Working all day long is really a source of tension for me		2.25	2.11
Never	18 (34.6)		
I can effectively solve problems that happen in my work		4.52	1.39
Sometimes, during the week	16 (30.8)		
Never	15 (28.8)		

The general worker scale mean was 3.21 ± 0.88 , indicating a high level of burnout. The population, thus, is exposed to many repercussions and consequences from this calculated risk. The means and standard deviation of the domains were: emotional exhaustion 2.66 ± 2.05 (moderate), depersonalization: 1.16 ± 1.79 (moderate), and personal accomplishment: 5.13 ± 1.17 (high).

We compared the means of the domains and the variables sex, profession, job satisfaction, and

would or would not change jobs. In the emotional exhaustion domain, those unsatisfied had a higher mean than those who were satisfied ($p=0.001$). The highest mean was in those who would change jobs ($p=0.040$). An identical result was found for depersonalization, where those dissatisfied with work had a higher mean than those who were satisfied ($p=0.001$); regarding personal accomplishment, the mean was higher in those who would change jobs ($p=0.001$).

Table 2 – Comparison of the means of emotional exhaustion, depersonalization, and effectiveness at work. Iguatu, CE, Brazil, 2022

Variables	Emotional exhaustion			Depersonalization			Effectiveness at work		
	N	Mean	p*	N	Mean	p	N	Mean	p
Sex									
Female	38	2.51	0.299	38	1.04	0.363	38	5.26	0.077
Male	14	3.06		14	1.46		14	4.79	
Profession									
Nursing technician	31	2.39	0.165	31	0.95	0.216	31	5.12	0.928
Nurse	21	3.06		21	1.46		21	5.14	
Satisfied									
Yes	41	2.22	0.001	41	0.58	0.001	41	0.96	0.120
No	11	4.31		11	3.29		11	0.79	
Change									
No	29	2.23	0.040	29	0.87	0.121	29	5.48	0.001
Yes	23	3.20		23	1.51		23	4.70	

**Student's t

Discussion

There are countless risk factors for Burnout Syndrome, which stands out due to the situation experienced by health workers, especially nursing professionals, in the context of the COVID-19 pandemic.

In this study, the means of emotional exhaustion, depersonalization, and personal accomplishment of nurses are higher than those of nursing technicians, meaning they are more likely to develop Burnout Syndrome. Nurses are more vulnerable to this syndrome because of the intense demands and responsibilities imposed on them, related to the organization and supervision of health sectors, in addition to the commitment, intrinsic to the profession, of improving and restoring the health of their patients⁽¹⁵⁾.

Considering this setting, workers in the frontlines, directly involved with care to patients who were diagnosed with coronavirus and are undergoing treatment, are more likely to have feelings of distress, fear, frustration and uncertainty triggered as they deal with borderline situations. The increase in the number of infected people and the high death rates are reasons for an intensification of these feelings, and require more responsibility, as nurses work and contribute to health services in an extremely hostile environment, exceedingly stressed, and feeling powerless, all of

which can be related with the emergence of Burnout Syndrome⁽¹⁶⁾.

The psychosocial repercussions of COVID-19 in health workers showed that one of the most important factors associated with emotional stress was related with the growing number of workers infected by the disease due to the lack of personal protection equipment, or due to the incorrect use of this equipment. This is because they often must reuse the same equipment multiple times, considering that, during the pandemic, these tools were scarce, due to the sudden growth in the demand for their production. Therefore, it is important to emphasize that training professionals on their proper use and disposal is as relevant as ensuring they are provided with the adequate supplies⁽¹⁷⁾.

A pertinent measure that health services could adopt is assessing and identifying the psychological and physical health of workers. Other possible actions include a good rapport among team members, including satisfactory conversations between professionals, less internal differences, and multiprofessional and participative cooperation, in addition to a good relationship between professionals and the health unit⁽¹⁸⁾.

The emotional exhaustion characteristic of Burnout Syndrome can generate shortcomings in the

performance of professional activities, in addition to worsening the risks of alcohol and drug use and abuse, and increasing symptoms of anxiety in such a way that these can expand into the personal life of these workers, affecting their relationships, social cycles, and even leading them to abandon the profession.

During the pandemic, health unit workers faced new challenges, including the need to be more careful when putting personal protective equipment on and to take precautions when getting in contact with infected patients, as well as more proximity with the process of disease and death, the implementation of new conducts, and new protocols that required them to adapt. This is added to a significant decrease in the numbers of hours of sleep and in the quality of their sleep and rest, in addition to other aspects that can facilitate the appearance of mental disorders⁽¹⁹⁾.

The low number of workers and the fact that nursing personnel was not resized increase the odds that nursing workers would be infected by SARS-CoV-2. Double shifts carried out by these workers to cover for other professionals also increase this risk⁽²⁰⁾.

Studies suggest that undersized personnel lead to task accumulation and increases the number of outstanding tasks, which means there are more demands to the workers, in addition to more psychological tension, mental exhaustion, and, often, requires vacations and time to be canceled, cutting short the conditions necessary to maintain psychic health during the pandemic.

62% of workers claim to have had some form of psychic distress since the beginning of the pandemic, with symptoms that became gradually worse over time⁽⁵⁾. This shows that effects from mental exhaustion symptoms are not entirely overcome in the long-term, and can be exacerbated or have other manifestations, depending on the degree and time of exposure to stressors in the work environment. They may also be brought about by several environmental and social triggers.

It is relevant to emphasize that stress is not

only seen as harmful for workers, but especially for institutions, which have to deal with high costs due to accidents, diseases, absenteeism, conflicts, lack of interest, and abandonment, found in all levels and aspects of work, that interferes in productivity⁽²¹⁾.

Another repercussion of COVID-19 was the implementation of social distancing measures, which led to changes in interpersonal relationships. Considering the characteristics of the socialization of the subjects, who missed interacting with others. These interactions are essential for individual growth, to form connections, and for the progress of the teaching/learning process. Distancing is not conducive to psychic restoration and can lead to anxiety, doubt, fear, anguish, and other issues, causing intense mental distress⁽²²⁾.

Health workers on the frontlines of the struggle against COVID-19, as well as those who provided direct care to infected patients, reflected important data related to mental health. 50% of these professionals, who worked in 34 different hospitals, manifested sleep disorders and symptoms of depression, anxiety, and anguish. These symptoms were more intense in nurses who worked in direct care to infected patients⁽²³⁾.

The use of antidepressants can aggravate Burnout Syndrome, as these drugs, often indiscriminately and incorrectly use, can mask the early symptoms of Burnout, delaying appropriate management of the syndrome in its early days. This risk is even greater in males⁽²⁴⁾.

As suggested by the means found and by the level of the Burnout Syndrome presented in this study, moderate and high levels of the syndrome in nurses from a general hospitals can be explained by the constant setbacks faced by these professionals due to the disparity between the time available and the number and nature of tasks that need to be performed. This causes apprehension and many different feelings in the worker, due to the high number of responsibilities, considerably increasing exhaustion, tension, and chronic strain⁽²⁵⁾.

The high level of professional accomplishment showed in this study can be associated to the fact that most professionals found it easy to assist their patients, and recognized the relevance of their work. However, there were some obstacles for them to properly manage emotional setbacks and feel productive at work. The constant proximity with the disease, suffering, and losses led to emotional deterioration. This can be perceived in the mean responses from professionals in this study, and in the practical experience of these workers, considering the intense suffering and deaths resulting from the COVID-19 pandemic⁽²⁶⁾.

Study limitations

A limitation of this study is the fact it used a cross-section of time, meaning it only addressed a single occasion, making it difficult to establish causal relationships. It is also worth noting the difficulties attracting professionals for the interview during the pandemic.

Contributions to practice

Considering that, as this study and other research have shown, the Burnout Syndrome has a strong impact on the mental and physical health of nursing workers, especially during the emergence of the pandemic, we must make efforts to implement measures to reduce the negative impact of this syndrome on the life of workers, considering that its repercussions affect not only individuals, but also health institutions.

Furthermore, it is extremely relevant to invest in scientific research to deepen our understanding about this syndrome and how to prevent it, considering the multiple dimensions associated with the problem, and the substantial changes in the routine of health units whose workers are affected by the early symptoms of this syndrome, or even who have an already installed case, with its often incapacitating consequences.

Conclusion

Nursing works analyzed in this study presented high levels of Burnout Syndrome, especially in the setting of the COVID-19 pandemic, which intensified stressors due to the proximity to the process of disease and death, exposing these workers to intense mental suffering and the development of psychic disorders.

Many stressors have been associated with Burnout Syndrome in the nursing team, such as low pay, intense workloads, lack of professional recognition, constant demands, among others — in addition to the fear of contamination and social distancing due to the COVID-19 pandemic.

Authors' contribution

Concept and project or analysis and interpretation of data; Writing of the manuscript or relevant critical revision of the intellectual content; and Final approval of the version to be published; Responsibility for all aspects of the text in ensuring the accuracy and integrity of any part of the manuscript: Souza PM, Alves JG, Mendonça GUG, Araújo MM, Bezerra CF, Silva JWM, Teixeira OFB.

References

1. Ramos RS. Oncology nursing in coping with the COVID-19 pandemic: reflections and recommendations for oncology care practice. *Rev Bras Cancerol.* 2020;66(TemaAtual):e-1007. doi: <https://doi.org/10.32635/2176-9745.RBC.2020v66nTemaAtual.1007>
2. Bruyneel A, Bruyneel A, Gallani MC, Tack J, d'Hondt A, Canipel S, et al. Impact of COVID-19 on nursing time in intensive care units in Belgium. *Intensive Crit Care Nurs.* 2021;62:102967. doi: <https://doi.org/10.1016/j.iccn.2020.102967>
3. Meneguín S, Meneguín S, Ignácio I, Pollo CF, Honório HM, Patini MSG, et al. Burnout and quality of life in nursing staff during the COVID-19 pandemic. *BMC Nurs.* 2023;22(1):14. doi: <https://doi.org/10.1186/s12912-022-01168-7>

4. Brooks SK, Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*. 2020;395(10227):912-20. doi: [https://dx.doi.org/10.1016/S0140-6736\(20\)30460-8](https://dx.doi.org/10.1016/S0140-6736(20)30460-8)
5. Pereira LR, Serra JG, Farias ES, Nunes LL, Oliveira MX, Castro TM. Burnout syndrome in nursing in the context of the covid-19 pandemic: literature review. *Rev Bras Interdiscip Saúde*. 2021;3(4):109-15. doi: <http://doi.org/10.1590/1982-4327e3234>
6. Humerez DC, Barduchi RI, Silva MCN. Mental health of Brazilian nursing professionals in the context of the covid-19 pandemic: action of the nursing federal council. *Cogitare Enferm*. 2020;25:e74115. doi: <https://doi.org/10.5380/ce.v25i0.74115>
7. Perniciotti P, Serrano Júnior CV, Guarita RV, Moraes RJ, Romano BW. Síndrome de Burnout nos profissionais de saúde: atualização sobre definições, fatores de risco e estratégias de prevenção. *Rev SBPH [Internet]*. 2020 [cited Aug 13, 2023];23(1):35-52. Available from: <https://revistasbph.emnuvens.com.br/revista/article/view/98/77>
8. Jarruche LT, Mucci S. Síndrome de burnout em profissionais da saúde: revisão integrativa. *Rev Bioét*. 2021;29(1):162-73. doi: <https://dx.doi.org/10.1590/1983-80422021291456>
9. Stocchetti N, Segre G, Zanier ER, Zanetti M, Campi R, Scarpellini F, et al. Burnout in intensive care unit workers during the second wave of the COVID-19 pandemic: a single center cross-sectional Italian study. *Int J Environ Res Public Health*. 2021;18(11):6102. doi: <https://doi.org/10.3390/ijerph18116102>
10. Freitas RF, Barros IM, Miranda MAF, Freitas TF, Rocha JSB, Lessa A C. Preditores da síndrome de Burnout em técnicos de enfermagem de unidade de terapia intensiva durante a pandemia da COVID-19. *Braz J Psychiatry*. 2021;70(1):12-20. doi: <https://doi.org/10.1590/0047-2085000000313>
11. Tomaz HC, Tajra FS, Lima ACG, Santos MM. Síndrome de Burnout e fatores associados em profissionais da Estratégia Saúde da Família. *Interface Comun Saúde Educ*. 2020;24:e190634. doi: <https://doi.org/10.1590/Interface.190634>
12. Nasi C, Marcheti PM, Oliveira E, Rezio LA, Zerbetto SR, Queiroz AM, et al. Meanings of nursing professionals' experiences in the context of the pandemic of COVID-19. *Rev Rene*. 2021;22:e67933. doi: <https://dx.doi.org/10.15253/2175-6783.20212267933>
13. Sullivan D, Sullivan V, Weatherspoon D, Frazer C. Comparison of nurse burnout, before and during the COVID-19 pandemic. *Nurs Clin North Am*. 2022;57(1):79-99. doi: <http://doi.org/10.1016/j.cnur.2021.11.006>
14. Abreu WJCP. COVID-19 pandemic: from respect for science to investments in National Health Services [Editorial]. *Rev Rene*. 2021;22:e61290. doi: <http://doi.org/10.15253/2175-6783.20212261290>
15. Aragão NSC, Barbosa GB, Santos CLC, Nascimento DSS, Bôas LBSV, Martins Júnior DF, et al. Burnout syndrome and associated factors in intensive care unit nurses. *Rev Bras Enferm*. 2021;74:e20190535. doi: <https://doi.org/10.1590/0034-7167-2019-0535>
16. Borges FES, Aragão DFB, Borges FES, Sousa ASJ, Machado ALG. Risk factors for burnout syndrome in health professionals during the covid-19 pandemic. *Rev Enferm Atual In Derme*. 2021;95(33):e-021006. doi: <https://dx.doi.org/10.31011/reaid-2020-v.94-n.32-art.835>
17. Rodríguez BO, Sánchez TL. The psychosocial impact of COVID-19-19 on health care workers. *Int Braz J Urol*. 2020;46(suppl 1):195-200. doi: <https://doi.org/10.1590/S1677-5538.IBJU.2020.S124>
18. Gomez S, Brian JA, Hyunmin Y, Jacob G, Jablonski J, Martin N, et al. Benchmarking critical care well-being: before and after the coronavirus disease 2019 pandemic. *Crit Care Explor*. 2020;2(10):e0233. doi: <https://doi.org/10.1097/CCE.0000000000000233>
19. Almeida SLAC, Salvaro MM, Geraldo MVF, Guimarães VMH, Fornero LCM, Amorim ACC, et al. Burnout syndrome in healthcare professionals in the front-line of COVID-19. *Braz J Dev*. 2021;7(7):66360-71. doi: <https://doi.org/10.34117/bjdv7n7-082>
20. Teixeira CFS, Soares CM, Souza EA, Lisboa ES, Pinto ICM, Andrade LR, et al. A saúde dos profissionais de saúde no enfrentamento da pandemia

- de COVID-19. *Sanar Saúde*. 2020;25(9):3465-74. doi: <https://dx.doi.org/10.1590/1413-81232020259.19562020>
21. Aragão NS, Barbosa G, Sobrinho CLN. Burnout syndrome and associated factors in intensivists nurses: a systematic review. *Rev Baiana Enferm*. 2019;33:e28605. doi: <https://doi.org/10.18471/rbe.v33.28605>
 22. Santos KMR, Galvão MHR, Gomes SM, Souza TA, Medeiros AA, Barbosa IR. Depression and anxiety in nursing professionals during the covid-19 pandemic. *Esc Anna Nery* 2021;25(spe):e20200370. doi:<https://dx.doi.org/10.1590/2177-9465-EAN-2020-0370>
 23. Lima AP, Maia LFS. Burnout syndrome in nursing professionals in times of the COVID-19 pandemic. *Rev Remecs*. 2021;1(esp):35-42. doi: <https://doi.org/10.24281/rremecs2021.1.esp.35-42>
 24. Baldonado-Mosteiro M, Almeida MCS, Baptista PCP, Sánchez-Zaballos M, Rodriguez-Diaz FJ, Mosteiro-Diaz MP. Burnout syndrome in Brazilian and Spanish nursing workers. *Rev Latino-Am Enfermagem*. 2019;27:e3192. doi: <https://doi.org/10.1590/1518-8345.2818.3192>
 25. Porciuncula AM, Venâncio SA, Silva CMFP. Burnout syndrome in family health strategy managers. *Ciênc Saúde Colet*. 2020;25(4):1555-66. doi: <http://doi.org/10.1590/1413-81232020254.2207201824>
 26. Alvares MEM, Thomaz EBAF, Lamy ZC, Nina RVAH, Pereira MUL, Garcia JBS. Burnout syndrome among healthcare professionals in intensive care units: a cross-sectional population-based study. *Rev Bras Ter Intensiva*. 2020;32(2):251-60. doi: <https://doi.org/10.5935/0103-507X.20200036>



This is an Open Access article distributed under the terms of the Creative Commons