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BURNOUT SYNDROME IN INTENSIVE CARE PROFESSIONALS IN THE CONTEXT OF THE COVID-19 PANDEMIC IN A CITY IN NORTHEAST BRAZIL

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Abstract: Objective: to analyze the signs of Burnout Syndrome in Intensive Care professionals in the context of the COVID-19 pandemic. Methods: Cross-sectional, descriptive study with a quantitative approach, with interviews of health professionals (Nurses, Physiotherapists and Nursing Technicians) working in the Intensive Care Unit, in the months of August and September 2021, specifically for patients with COVID-19, using - a questionnaire relating to Burnout Syndrome, the Match Burnout Inventory- Human Service Survey. Absolute frequency, position means, standard deviation and Kolmogorov-Smirnov test were applied, with significance <5%. Results: The "emotional exhaustion" dimension showed greater evidence of high risk for Burnout Syndrome in relation to the "professional depersonalization" and "professional fulfillment" dimensions. Conclusion: A greater indication for Burnout Syndrome was identified in nurses when compared to nursing technicians and physiotherapists. Furthermore, more than half of professionals show signs of a trend or sign of Burnout.
Keywords: Intensive care unit; COVID-19; Professional burnout; Burnout syndrome.

INTRODUCTION

COVID-19 is an infectious disease caused by the new coronavirus (SARS-CoV-2) and its main symptoms are fever, fatigue and dry cough. It is easily transmitted, however, around 80% of those infected recovers without hospital treatment. One in six infected people becomes seriously ill and develops difficulty breathing (PAHO, 2021).

COVID-19 spread quickly across several countries, generating global impacts on health (World Health Organization, 2020). The relevance of the collapse caused by the pandemic generates a high rate of psychological and social disturbances both in the population

and in healthcare professionals (BRASIL, 2021), causing a considerable increase in anxiety, mental illness, and therefore Burnout Syndrome (BS) (PAHO, 2021).

Furthermore, long working hours have caused health professionals, belonging to the freight line to combat Covid-19, the emergence or worsening of stress and physical and psychological exhaustion, and consequently BS (BARBA et al., 2021). The term Burnout is a combination of burn and out, characterizing stress that physically and emotionally consumes the individual, leading to aggressive and irritated behavior resulting from an exhausting work situation (TEODORO, 2012).

SB consists of three dimensions: emotional exhaustion (EE); professional depersonalization (PD); professional achievement (PR) (MASLACH; JACKSON, 1981). Among the different areas of health care, the Intensive Care Unit (ICU) stands out for being considered exhausting and tense, triggering physical and mental exhaustion, which can result in BS, since it involves patients in a serious state of health and/or being subjected to delicate procedures (LOIOLA NETO; SOARES; GONÇALVES, 2017). The context of the pandemic required professionals to reformulate their skills and competencies, in order to adapt to the development of care that was able to meet the demands inherent to each profession at the current time (RAMOS, 2020).

In this sense, the objective was to analyze the indicators of Burnout Syndrome in Intensive Care professionals, from a hospital in the interior of Maranhão, in the context of the COVID-19 pandemic, also comparing the different dimensions of Burnout Syndrome, from generally and by professional category.

METHODS

This is a cross-sectional, descriptive study with a quantitative approach carried out in the specific ICU for patients with COVID-19, of a hospital institution in the interior of Maranhão, northeastern Brazil. The research was carried out in the months of August and September 2021, with a total of 36 professionals (nurses - six, physiotherapists - six, doctors - four and nursing technicians - twenty), of which only 30 participated in the research, 6 of which were nurses, 5 physiotherapists and 19 nursing technicians. The doctors refused to participate in the study. Professionals who had worked at the institution for at least one year and who were away or on vacation at the time of collection were excluded.

The study was authorized by the Health Department of the municipality where the studied hospital institution is located, as well as its management, and was also approved by the Ethics Committee, CAAE: 49686121.4.0000.5554. Participants received a TCLE (Free and Informed Consent Form) in compliance with resolution 466/12 of the National Health Council.

To obtain the data, the Maslach Burnout Inventory questionnaire (MASLACH, 2020) was used, in the Human Service Survey (MBI-HSS) version, the original measure that was designed for professionals in health services that assesses the degree of psychological impairment and the possible development of Burnout Syndrome, translated and adapted by Benevides-Pereira (2001).

The MBI-HSS assesses the three dimensions of the syndrome: emotional exhaustion (EE), depersonalization (DP) and professional achievement (RP), disregarding previous antecedents and consequences of its process, being revised and reissued in 19867, consisting of 22 questions of the type Likert, with nine linked to EE, five to DP and eight to low RP. The high scores in EE and DP and

the score for professional achievement RP, being the opposite (low), indicating a high level of Burnout, therefore, the manifestation of Burnout is indicated by the worker's classification in these three-dimensional criteria (RIBEIRO et al., 2012).

The scoring method for all items covered ranges from zero to six, being: (0) never, (1) once a year or less, (2) once a month or less, (3) a few times a month, (4) once a week, (5) a few times a week, (6) every day14. The risk of developing BS was determined after analyzing all dimensions, in order to measure the possibility of the person being researched manifesting the disease.

DIMENSIONS	CUT-OFF POINTS		
	Low	Average	High
Emotional exhaustion	0-15	16-25	26-54
Depersonalization	0-02	03-08	09-30
Professional achievement	43-48	34-42	0-33

Table 1- MBI scale values developed by GEPEB.

Source: Benevides-Pereira, 2001.

The values obtained were compared with the reference values of the GEPEB - Study and Research Group on stress and Burnout (GEPEB, 2016) (Table 1). Data were collected through printed MBI-HSS questionnaires, self-administered, made available in the workplace, in the months of August and September 2021, after invitation and explanation of the terms of participation and their rights to accept and/or refuse to participate in the research.

Health professionals were divided into three categories: 1 - Nurse (represented by the letter "E"); 2- Physiotherapist (represented by the letter "F"), 3- Nursing Technician (represented by the letter "T"). For the descriptive analysis of the data, the absolute and relative frequency was applied for qualitative data, and mean and standard deviation (SD) for quantitative variables.

The Kolmogorov-Smirnov test was applied to measure the normality of the MBI-HSS questionnaire scores. For binary variables, the non-parametric test (Mann-Whitney U test) or the parametric test (Student's T) was used. For multiple variables, the Kruskal Wallis test (Non-parametric) and ANOVA test (Parametric) were applied. For all analyses, a significance level of <5% was considered.

RESULTS

Regarding the Emotional Exhaustion axis, those investigated indicated significant exhaustion at the end of a working day (Q-1), as 16 (53.3%) ranged from "a few times a week" to "every day". Furthermore, at least nine (30.0%) of professionals express the feelings exposed in questions Q-6, Q-8 and Q-9 between "a few times a week" and "every day".

Regarding the Depersonalization Axis, it was found that 24 (80.0%) say they "never" treat patients as objects and 25 (83.3%) say they "never" had the feeling expressed in Q-13. It is also observed that the most frequent feelings of depersonalization were those observed in questions Q-12 and Q-14, with eight (26.6%) and five (16.6%) participants respectively, ranging from "a few times a week" to "every day" (Table 1).

Regarding the Professional Fulfillment dimension, the scores show that nine (30.0%) "never" feel full of energy or only "once a year". Furthermore, three (10.0%) "never" feel they can create a peaceful environment for patients (Q-17). However, 19 (63.3%) feel that "every day" they can positively influence the lives of others through their work (Q-18) and 21 (70.0%) conclude that they can easily understand what they feel (Q-20), (Table 1).

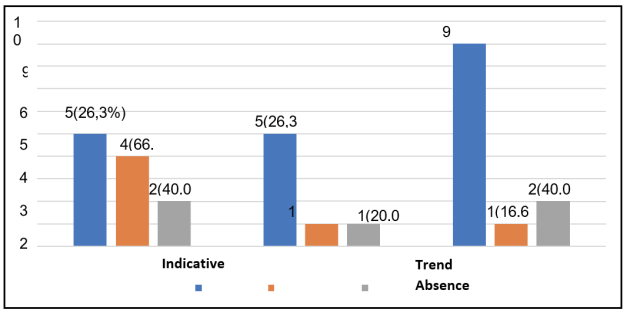
A three-dimensional assessment of the MBI-HSS was carried out, that is, taking into consideration, the three dimensions, in order to maintain the Syndrome perspective. The

average values obtained in the three dimensions of BS showed: points in EE, indicating medium risk; points in Depersonalization, indicating medium level; points in PR, indicating a medium level, therefore the SD of the Depersonalization dimension was the one with the least dispersion in relation to the others (Table 3). In this sense, in the three dimensions, in general, when analyzing the average, professionals presented a medium risk for BS.

In the comparison analysis of the scores of the three BS dimensions in relation to professional identification, it was evident that Nurses had a higher average in the EE and RP dimensions, with 28.67 and 8.00 respectively, and a lower average (34.67) in the RP dimension. On the other hand, TE had a lower mean in the DP dimension and a higher mean in the RP dimension, with 5.00 and 40.37 respectively (Table 4).

Based on the correlation analysis, it was observed that the length of time with the institution does not influence emotional exhaustion (p- 0.274), depersonalization (p- 0.683), and PR (0.134). However, as the emotional exhaustion score increases by one unit, there is a positive increase of 0.749 units (74.9%) in PD. However, PD inversely influences the PR score (CC=-0.389) (Table 5).

When analyzing the high, medium and low levels for BS tendency, it was found that 11 (37.0%) of the professionals show signs of Burnout, seven (23.0%) show signs of a tendency and only 12 (40.0%) show signs of Absence. Analyzing each professional category individually, it can be seen that four (66.6%) of the nurses presented a high Burnout Indicator index, followed by two (40.0%) physiotherapists. In relation to the Trend Indicator, TE presented a higher risk, represented by five (26.3%) professionals (Graph 1).



Graphic 1- Classification of indicators of Burnout Syndrome (Maslach Burnout Inventory Questionnaire (MBI) - HSS), of Nurses, Physiotherapists and Nursing Technicians in a COVID-19 ICU. MA-2021. N:30.

Source: Author

DISCUSSION

Although the sample size was low, there is a report of a positive association of young medical professionals and nurses with Burnout syndrome (TSOU; CHEN, 2021). Burnout syndrome is the result of long-term exposure to job demands and physical, mental, and emotional stress that includes pessimism about oneself and work (KIM; CHOI, 2016).

Furthermore, Silva et al. (2018) observed that stressful factors related to excessive noise, dealing with suffering and death, lack of material resources and insufficient remuneration are the biggest contributors to the development of BS in intensive care professionals. Due to direct exposure to patients with Covid-19, nursing technicians, nurses and physiotherapists, adding to the workload is the most significant cause of Burnout in them (GARCÍA; CALVO, 2021).

The results of this study showed that nurses presented a higher Burnout Indicator than other professional categories evaluated, agreeing with the findings of other studies, in which they found that nurses and front-line teams dealing with Covid-19 are more likely to suffer Burnout than other healthcare professionals. In Spain, the situation generated by Covid-19 pushed nurses to the limit,

Question(Q)	Never	1x/ year	1x/ month	Sometimes /month	1x/ week	Sometimes/ week	Every day
	N(%)	N(%)	N(%)	N(%)	N(%)	N(%)	N(%)
Emotional exhaustion							
1. I feel exhausted at the end of the workday	5(16.7)	0(0.0)	2(6.7)	4(13.3)	3(10.0)	10(33.3)	6(20.0)
2. I feel like I'm at my limit	13(43.3)	0(0.0)	4(13.3)	4(13.3)	2(6.7)	2(6.7)	5(16.7)
3. I feel emotionally exhausted from my work	12(40.0)	0(0.0)	2(6.7)	5(16.7)	3(10.0)	3(10.0)	5(16.7)
4. I feel frustrated with my work.	15(50.0)	2(6.7)	4(13.3)	1(3.3)	1(3.3)	5(16.7)	2(6.7)
5. I feel exhausted with my work	13(43.3)	3(10.0)	2(6.7)	3(10.0)	0(0.0)	5(16.7)	4(13.3)
6. I feel like I'm working too hard at this job.	13(43.3)	1(3.3)	3(10.0)	2(6.7)	2(6.7)	3(10.0)	6(20.0)
7. Working directly with people makes me very stressed.	20(66.7)	3(10.0)	2(6.7)	1(3.3)	2(6.7)	2(6.7)	0(0.0)
8. Working with people all day takes a lot of effort.	9(30.0)	3(10.0)	3(10.0)	4(13.3)	0(0.0)	5(16.7)	6(20.0)
9. I feel tired when I get up in the morning and I have to face another day of work.	13(43.3)	2(6.7)	0(0.0)	5(16.7)	1(3.3)	3(10.0)	6(20.0)
Depersonalization							
10. I feel like patients blame me for some of their problems.	22(73.3)	1(3.3)	2(6.7)	1(3.3)	1(3.3)	3(10.0)	0(0.0)
11. I feel like I treat some patients as if they were objects.	24(80.0)	1(3.3)	2(6.7)	0(0.0)	1(3.3)	1(3.3)	1(3.3)
12. I have become more insensitive towards people since doing this job.	18(60.0)	2(6.7)	1(3.3)	0(0.0)	1(3.3)	4(13.3)	4(13.3)
13. I don't really care what happens to some of my patients.	25(83.3)	2(6.7)	1(3.3)	0(0.0)	1(3.3)	1(3.3)	0(0.0)
14. I worry that this work is hardening me emotionally.	15(50.0)	0(0.0)	4(13.3)	2(6.7)	4(13.3)	1(3.3)	4(13.3)
Professional achievement							
15. I feel full of energy.	6(20.0)	3(10.0)	1(3.3)	2(6.7)	1(3.3)	10(33.3)	7(23.3)
16. I feel stimulated after working in contact with patients.	1(3.3)	2(6.7)	0(0.0)	4(13.3)	5(16.7)	8(26.7)	10(33.3)
17. I feel like I can create a calming environment for patients.	3(10.0)	0(0.0)	0(0.0)	5(16.7)	2(6.7)	8(26.7)	12(40.0)
18. I feel like I positively influence the lives of others through my work.	2(6.7)	0(0.0)	0(0.0)	2(6.7)	1(3.3)	6(20.0)	19(63.3)
19. I deal appropriately with patient problems.	0(0.0)	0(0.0)	0(0.0)	2(6.7)	2(6.7)	5(16.7)	21(70.0)
20. I can easily understand what patients feel.	0(0.0)	0(0.0)	0(0.0)	1(3.3)	3(10.0)	5(16.7)	21(70.0)
21. I feel like I know how to calmly deal with emotional problems in my work.	0(0.0)	0(0.0)	0(0.0)	2(6.7)	5(16.7)	9(30.0)	14(46.7)
22. I have achieved many achievements in my profession.	1(3.3)	1(3.3)	0(0.0)	1(3.3)	3(10.0)	6(20.0)	18(60.0)

Table 2- Characterization of responses to the Match Burnout Inventory (MBI) - HSS questionnaire from nurses, physiotherapists and nursing technicians in a COVID-19 ICU. MA-2021. N:30

	N (%)	IC-95%[1]	Mean-CI-95%	DP
Emotional exhaustion			21.03(14.78-27.28)	16.74
Low	15(50.0)	(32.8-67.2)		
Average	1(3.3)	(0.4-14.5)		
High	14(46.7)	(29.8-64.1)		
Depersonalization			5.70(3.52-7.88)	5.83
Low	14(46.7)	(29.8-64.1)		
Average	7(23.3)	(11.1-40.4)		
High	9(30.0)	(16.0-47.7)		
Professional achievement			39.0(36.60-41.40)	6.42
Low	10(33.3)	(18.6-51.1)		
Average	15(50.0)	(32.8-67.2)		
High	5(16.7)	(6.7-32.7)		

Table 3- Characterization of the characterization and score of the Match Burnout Inventory (MBI) - HSS questionnaire of nurses, physiotherapists and nursing technicians in a COVID-19 ICU. MA-2021. N:30.

*[1] 95% confidence interval for the mean, *SD: Standard Deviation. Source: Author

	Emotional Exhaustion	**Depersonalization Professional**		**Professional achievement**	
	Mean ± SD	P-Value	Average ± Dp	P-Value	Mean ± SD	P-Value
Identification	0.353[2]		0.483[2]			0,168[1]
Technical	19.21±16.06	5.00±5.88			40.37±5.63	
Nursing	28.67±14.92	8.00±5.80			34.67±6.02	
Physiotherapy	18.80±21.97	5.60±6.19			39.00±8.60	

Table 4- Comparison analysis of the domain score of the Match Burnout Inventory (MBI) - HSS questionnaire, for Nurses, Physiotherapists and Nursing Technicians and a COVID-19 ICU. MA-2021. N:30.

*[1] ANOVA test. *[2]Kruskal-Wallis test. Source: Author

		A	**B**	**C**	**D**
Length of employment with the institution in years (A)	CC	1.000	-0.206	-0.078	-0.280
	P-Value		0.274	0.683	0.134
Emotional Exhaustion(B)	CC		1.000	0,749**	-0.345
	P-Value			**<0.001**	0.062
Depersonalization Professional(C)	CC			1.000	-,389*
	P-Value				0.033
Professional Achievement (D)	CC				1.000

Table 5- Correlation between the scores of the domains of the Match Burnout Inventory (MBI) - HSS questionnaire, among Nurses, Physiotherapists and Nursing Technicians in a COVID-19 ICU. MA-2021. N:30.

Spearman correlation * Correlation is significant at the 0.05 level (2-tailed).

Source: Author

suffering a strong psychological impact due to stress and reduced rest periods (FERNANDEZ et al., 2020).

Furthermore, previous studies have proven that long working hours (> 10 h/d) and night shifts in hospitals are strongly associated with Burnout (KOBAYASHI et al., 2012), in addition to a positive relationship between exhaustion and insomnia in line staff. face to face with being under enormous pressure during the Covid-19 pandemic (SECOSAN et al., 2020).

For Silva et al. (2018), EE can lead to depersonalization, causing a deficit in professional competence due to attitudes of emotional withdrawal as a defense to alleviate exhaustion, which corroborates the present research, as it was found that, when there is an increase in EE, there is a positive increase in PD, that is, an emotional withdrawal. Furthermore, EE can result in frustration and tension, reducing the possibility of having energy available for customer assistance (GAZELLE; LIEBSCHUTZ; RIESS, 2015).

In 2020 and 2021, most publications about Covid-19 focused on the disease and hospitalized patients. Although some have addressed mental health in healthcare professionals, studies focusing on Burnout in the initial stage of the pandemic were scarce. The answers help to shed light on Burnout risk factors at a dangerous time during a global outbreak, especially for professionals on the front lines of the pandemic (SUN et al., 2021; ZARE et al., 2021).

This study has limitations, including the non-participation of doctors, the low number of male participants, and the fact that it is a self-administered questionnaire, as it leaves room for it to be misunderstood. This situation was minimized by explaining possible doubts to participants. Furthermore, the MBI-HSS does not have diagnostic power, preferably requiring an assessment by an experienced psychiatrist (BENEVIDES-PEREIRA, 2010).

However, this is a relevant study that contributes to identifying possible psychological changes - Burnout - in Nurses, Nursing Technicians and Physiotherapists, working in ICUs focused on patients with Covid-19 during the COVID-19 pandemic. Therefore, it is important to focus on changes in the prevalence of Burnout and interventions that mitigate its long-term effects, as current predictions suggest that this pandemic will not be temporary (MATSUO et al., 2021).

CONCLUSION

The COVID-19 pandemic has had a negative effect on the mental health and well-being of healthcare professionals in the ICU. The EE axis, in general, presented a greater indication of high risk for the Syndrome than the DP and RP dimensions. Furthermore, a positive relationship was noticed between EE and PD, that is, when the first increases, the second also tends to have the same behavior. Furthermore, half of the interviewees have Indicators of Tendency or Indicators of Burnout, with Nurses being the most affected, when compared to Nursing Technicians and Physiotherapists.

The long-term impacts of our results remain unclear considering this study was conducted over a short period of time. Expanding the age range and the proportion of male respondents in future studies can potentially produce new discoveries. However, it brings to light important reflections on the mental health of the healthcare team working on the front line in the fight against Covid-19.

REFERENCES

BARBA, M. L. et al. **Burnout Syndrome at Covid- 19: the health impacts on health workers.** Brazilian Journal of Development, v. 7, n. 7, p. 72347-72363, 2021. Disponível em: https://www.brazilianjournals.com/index.php/BRJD/article/view/33148/ pdf

BENEVIDES-PEREIRA, A. M. T. **Burnout: quando o trabalho ameaça o bem-estar do trabalhador**. São Paulo: Casa do Psicólogo. 3ª edição; 2010.

BENEVIDES-PEREIRA, A. M. T. **MBI – Maslach Burnout Inventory e suas adaptações para o Brasil**. In XXXI Reunião Anual de Psicologia. Rio de Janeiro: SBP, p. 84- 85, 2001.

BRASIL. Ministério da Saúde. Centro de Operações de Emergências em Saúde Pública. **Plano de contingência nacional para infecção humana pelo novo Coronavírus Covid-19**: Centro de operações de emergências em saúde pública (COE- Covid-19) [Internet]. 1ª ed. Brasília; Ministerio da Saúde, 2021. Acesso em: 23 julho de 2021]. Disponível em: https://www.gov.br/saude/pt-br/coronavirus/publicacoes-tecnicas/guias-e-planos/livreto- plano-de-contingencia-espin-coe-26-novembro-2020

FERNANDEZ, R. et al**. Implications for COVID-19: A systematic review of nurses' experiences of working in acute care hospital settings during a respiratory pandemic**. [Internet]. International Journal of Nursing Studies, 2020. Disponível em:: https://doi.org/10.1016/j.ijnurstu.2020.103637.

GARCÍA, G. M.; CALVO, J. C. A. **The threat of COVID-19 and its influence on nursing staff burnout**. Journal of Advanced Nursing, v. 77, n. 2, p. 832-844, 2021. Disponível em: https://doi.org/10.1111/jan.14642

GAZELLE, G.; LIEBSCHUTZ, J. M.; RIESS, H. **Physician Burnout: Coaching a Way Out**. Rev. J. Gen. Intern. Med., v. 30, n. 4, p. 508-513, 2015. Disponível em: https://pubmed.ncbi.nlm.nih.gov/25527340/

GEPEB – **Grupo de Estudos e Pesquisa sobre Estresse e Síndrome DE Burnout**, 2016. Disponível em: https://gepeb.wordpress.com/apresentacao/.

KIM, J. S.; CHOI, J. S. **Factors influencing emergency nurses' burnout during an outbreak of Middle East Respiratory Syndrome Coronavirus in Korea**. [Internet]. Asian Nursing Research, v. 10, n. 4, p. 295-299, 2016. Disponível em: http://dx.doi.org/10.1016/j.anr.2016.10.002

KOBAYASHI, T. et al. **Long working hours and metabolic syndrome among Japanese men: a cross-sectional study.** [Internet]. BMC Public Health, v. 12, p. 395, 2012. Disponível em: https://doi.org/10.1186/1471-2458-12-395

LIOLO NETO, R. L. et al. **O papel do Enfermeiro de uma unidade de terapia intensiva na hemodiálise**. Rev UNINGÁ Review, v. 31, p. 40- 44, 2017.

MASLACH, C. **Job burnout**. Annu Rev Psychol, v. 52, n. 4, p. 397-422, 2021.

MASLACH, C.; JACKSON, S. E. **The measurement of experienced Burnout**. J. Occup. Behav. [internet], v. 2, p. 99-113, 1981. Disponível em: https://onlinelibrary.wiley.com/doi/10.1002/job.4030020205

MATSUO, T. et al. **Health care worker burnout after the first wave of the coronavirus disease 2019 (COVID-19) pandemic in Japan**. Journal of Occupational Health. [Internet], p. 1–11, 2021. Disponível em: https://doi.org/10.1002/1348-9585.12247

ORGANIZAÇÃO PAN-AMERICANA DA SAÚDE – OPAS. Organização Mundial da Saúde (OMS). **Folha informativa sobre COVID-19** [internet]. 2021. Acesso em: 29 de julho de 2021. Disponível em: https://www.paho.org/pt/covid19.

RAMOS, R. S. A **Enfermagem Oncológica no Enfrentamento da Pandemia de Covid-19: Reflexões e Recomendações para a Prática de Cuidado em Oncologia**. [Internet]. Revista Brasileira de Cancerologia, v.66, p. E-1007, 2020. Disponível em: https://doi.org/10.32635/2176-9745.RBC.2020v66nTemaAtual.1007

RIBEIRO, R. P. et al. **Work-related illness in nursing: an integrative review**. [Internet]. Rev Esc Enferm USP, v. 46, n. 2, p. 495-504, 2012. Disponível em: https://pubmed.ncbi.nlm.nih.gov/22576557/

ROSSI, S. S.; SANTOS, P. G.; PASSOS, J. **A Síndrome de Burnout no enfermeiro: um estudo comparativo entre atenção básica e setores fechados hospitalares**. Rev. Pesq. Cuid. Fundam, 381-384, 2010. Disponível em: http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/950

SECOSAN, I. et al. **Infodemia: Another Enemy for Romanian Frontline Healthcare Workers to Fight during the COVID-19 Outbreak**. [Internet]. Medicina, v. 56, n. 12, p. 1-9, 2020. Disponível em: https://doi.org/10.3390/medicina56120679.

SILVA, R. A. D. et al. **Síndrome de Burnout: realidade dos fisioterapeutas intensivistas?** [Internet]. Fisioter. Pesqui., 2018. Disponível em: https://doi.org/10.1590/1809-2950/17005225042018.

SUNG, C. W. et al. **Mental health crisis in healthcare providers in the COVID-19 pandemic: a cross-sectional facilitybased survey**. BMJ Open [Internet], v. 11, p. 1-7, 2021. Disponível em:: http://dx.doi.org/10.1136/bmjopen-2021-052184

TEODORO, M. D. A. **Estresse no Trabalho**. Com. Ciências Saúde, v. 23, n. 3, p. 205-206, 2012. Acesso em 23 de ago de 2021. Disponível em: http://bvsms.saude.gov.br/bvs/periodicos/revista_ ESCS_v23_n3_a1_estresse_ trabalho%20.pdf

TSOU, M. T.; CHEN, J. Y. Burnout and metabolic syndrome among healthcare workers: Is subclinical hypothyroidism a mediator? Journal of Occupational Health, p. 1-10, 2021. Disponível em:: https://doi.org/10.1002/1348-9585.12252.

WORLD HEALTH ORGANIZATION – WHO. **Coronavirus disease 2019 (COVID-19): situation report**, 78 [internet]. World Health Organization; 2020. Acesso em: 27 de julho de 2021. Disponível em: https://apps.who.int/iris/handle/10665/331719

ZARE, S. et al. **Beyond the Outbreak of COVID-19: Factors Affecting Burnout in Nurses in Iran.** Annals of Global Health., v. 51, n. 87, p. 1-8, 2021. Disponível em: https://doi.org/10.5334/aogh.3190