



Síndrome de Burnout e o senso de coerência em profissionais de enfermagem

Burnout syndrome and coherence sense in nursing professionals

Mercia Karoline Da Silva Dias¹, Gabriela Costa Alves¹, Fabiane Dolphine Fuentes Penachiotti¹, Rose Mari Bennemann², Rute Grossi Milani³

¹Programa de Pós-graduação em Promoção da Saúde (PPGPS), Universidade Cesumar (UniCesumar), Maringá (PR), Brasil.

²Docente Programa de Pós-graduação Mestrado/Doutorado em Promoção da Saúde (PPGPS) Universidade Cesumar (UniCesumar), pesquisadoras do Instituto Cesumar de Ciência, Tecnologia e Inovação (ICETI), Maringá (PR), Brasil.

³Docente Programa de Pós-graduação Mestrado/Doutorado em Promoção da Saúde (PPGPS), Universidade Cesumar (UniCesumar), pesquisadoras do Instituto Cesumar de Ciência, Tecnologia e Inovação (ICETI), Maringá (PR), Brasil.

***Corresponding author:** Gabriela Costa Alves – *E-mail:* psi.gabrielacosta@hotmail.com

*Received in October 25, 2022
Accepted in January 12, 2023*

ABSTRACT

This study analyzed burnout and sense of coherence in nursing professionals during the COVID-19 pandemic. To do so, 61 professionals of the Center-West region of Brazil answered the Maslach Burnout Inventory (MBI) and Sense of Coherence (SOC) instruments through a Google Forms questionnaire. The results suggested that the domain with the highest mean score in the MBI was “Personal accomplishment” (M=3.95; SD=0.53), followed by “Emotional exhaustion” (M=2.82; SD=0.83). There was a significant association between the MBI domains and the SOC-13 dimensions, with higher scores in “Comprehensibility” and “Manageability” of SOC, associated to lower “Emotional exhaustion” (r_s of -0.447 and -0.572) e “Depersonalization” (r_s of -0.339 and -0.383). A significant relationship was found between the psychological support at work and a decrease in the exhaustion level (p-value ≤ 0.001). These findings provide relevant contributions to devise actions focused on nursing professionals, highlighting the importance of psychological support and the strengthening of the sense of coherence.

Keywords: Covid-19. Nursing workers. Health promotion. Sense of coherence. Burnout syndrome.

RESUMO

Este estudo analisou a síndrome de *burnout* e o senso de coerência em profissionais de enfermagem durante a pandemia de covid-19. Para tanto, 61 profissionais da região Centro-Oeste do Brasil responderam aos instrumentos Maslach Burnout Inventory (MBI) e Senso de Coerência (SOC), em questionário do Google Forms. Os resultados indicaram que o domínio com maior pontuação média no MBI foi a “Realização pessoal” (M=3,95; DP=0,53), seguida pela “Exaustão emocional” (M=2,82; DP=0,83). Houve associação significativa entre domínios do MBI e as dimensões do SOC-13, com pontuações mais altas em “Compreensão” e “Manejo” do SOC, associadas a menor “Exaustão emocional” (r_s de -0,447 e -0,572) e “Despersonalização” (r_s de -0,339 e -0,383). Foi observada relação significativa entre o apoio psicológico no trabalho e a redução do nível de exaustão (valor $p \leq 0,001$). Esses achados fornecem contribuições relevantes para o desenvolvimento de ações direcionadas aos profissionais da enfermagem, destacando a importância do apoio psicológico e do fortalecimento do senso de coerência.

Palavras-chave: Covid-19. Profissionais de enfermagem. Promoção da saúde. Senso de coerência. Síndrome de Burnout.

INTRODUCTION

The COVID-19 pandemic, caused by the SARS-CoV-2 ¹ virus, remains the most devastating health issue of the past decades. Although all disease consequences are still unknown, this scenario brought several psychological disorders to the population ². In this context, Brazil, as one of the countries with the highest COVID-19 transmission rates ³, presented a collapse in the health service system, overloading the professionals of this field. Not only were they exposed to mental suffering that was aggravated by the pandemic, they are still a high-risk group. They are at the front line of fighting against the virus and disease treatment ^{2,3}.

Among the health categories, nursing is the one with the highest proportion of professionals and the highest susceptibility to experience psychological suffering. Some situations arising from the functions they perform interfere in mental health. This may lead to negative consequences to professionals and patients receiving care⁴. Nursing has always been at the forefront when the issue was providing health care for the society. With the COVID-19 pandemic, this could not be different. The importance of these professionals with regard to providing care for the population has been strengthened ⁵. It cannot be denied that workers are exposed to psychosocial risks at work that may contribute to health impairments ⁶. Mental diseases related to the work environment and stressful work are frequently found. The most common are depression, anxiety, panic disorder, and burnout. Moreover, the lack of quality of life at work may cause damages to individuals, organizations, and patients ⁷.

Burnout is characterized by emotional or physical exhaustion originated by working conditions. The prevalence of health professionals can be explained by their daily exposure to risk factors. This predominance in nursing professionals deserves highlight, since their workplace, their working hours and their relationship with countless patients increase the chances of their having burnout⁸. In circumstances such the pandemic, they often experience psychological and even psychiatric alterations, that is, their mental health is more harmed than their physical health. In this context, especially for health professionals who live in stressful environments, health authorities created strategies to promote psychological support in COVID-19 times ⁹.

Salutogenesis is one of the main agents of mental health promotion. It provides a positive approach to using the sense of coherence model, as well as enabling individuals to face their daily life challenges successfully ¹⁰. The salutogenic theory assesses the individuals'

ability to maintain their health in the face of adversities in order to foster empowering and positive management through health promotion. SOC is one of the protagonists of the salutogenic approach. It is considered universal, that is, every individual has it ¹¹.

When individuals have a high sense of coherence, they become able to deal with stress. It cannot be guaranteed that stress causes diseases. Nonetheless, the way one deals with it is a predictor of the type of consequences that will be faced. For this reason, SOC strengthens a good health status ¹¹.

COVID-19 has caused negative impacts in societies' mental health. One of the effective paths to reverse such premise is to adopt salutogenic and preventive behaviors ¹². This is essential because the pandemic has increased the risk of mental alterations. It has forced health professionals and the society to adapt to new ways of living ¹³.

Considering the efforts towards promoting mental health, this study analyzed burnout and sense of coherence in nursing professionals during the COVID-19 pandemic.

METHODOLOGY

This is a transversal, descriptive, and exploratory study, of a quantitative approach. Nursing professionals were invited to participate, of both sexes, who lived in the Center-West region of Brazil and were working in this field at the time of this study. This study sample was non-probabilistic and comprised nurses and nursing technicians. Data collection occurred during 30 days, between August 8th, 2020 and September 9th, 2020.

The data collection instruments used consisted of digital self-applicable digital questionnaires made available via Google Forms. The Maslach Burnout Inventory – MBI ¹⁴, the sense of coherence – SOC-13 – scale, ¹⁵ and a sociodemographic questionnaire were approached.

The questions concerning personal data, COVID-19, MBI and SOC were included using Google Forms and were made available through a link to the questionnaire on social networks, such as Facebook, Instagram, and WhatsApp. They contained this study presentation and an invitation to share it among other nursing professionals. The questionnaire link was available for the nursing professionals for a 30-day period.

Clarification on this study and its Informed consent form (ICF) were based on National Health Council Resolution no. 466/2012, with options to either accept or refuse it on the second

page of the online instrument. Data collection began after approval from the Unicesumar Ethics and Research Committee, under CCAE n° 30485320900005539.

DATA ANALYSIS

Initially, a descriptive analysis of the results were carried out in order to plot graphs and frequency tables and characterize the participants. Absolute and relative frequencies for the categorical variables were employed to describe results. The mean, standard deviation, minimum and maximum values, and median were used as numeric variables. In order to verify a possible relationship between “MBI domain and SOC dimension scores”, a test using the rank biserial correlation was carried out for the dichotomic variables, and the Spearman’s rank correlation test was carried out for the variables measured in either continuous or ordinal scales.

RESULTS

Nearly 200 professionals participated in this study; however, only 61 completed the scales. Of these, most of them were females (91.80%). Figure 1 shows the mental exhaustion assessments of the nursing professionals. The data related to emotional exhaustion varied. Ten per cent of the participants reported experiencing these feelings frequently or always on the items “I feel frustrated because of my work” and “Working directly with people makes me stressed out”. The item “I feel drained after a day at work” was reported by 43% of the participants. The feelings of depersonalization were less frequent. They varied between 5% (item “I feel I treat some of my patients as objects”) and 15% (item “I feel this job is hardening me emotionally”) among the professionals who reported experiencing these feelings either frequently or always.

The same tendency was found in the Personal accomplishment domain. In all items, most professionals reported frequent positive perceptions of their work. Fifty-six per cent of the participants frequently or always reported the perception “At work, I deal with my problems calmly”, reaching 93% of those who reported that I treat my patients’ problems adequately.”

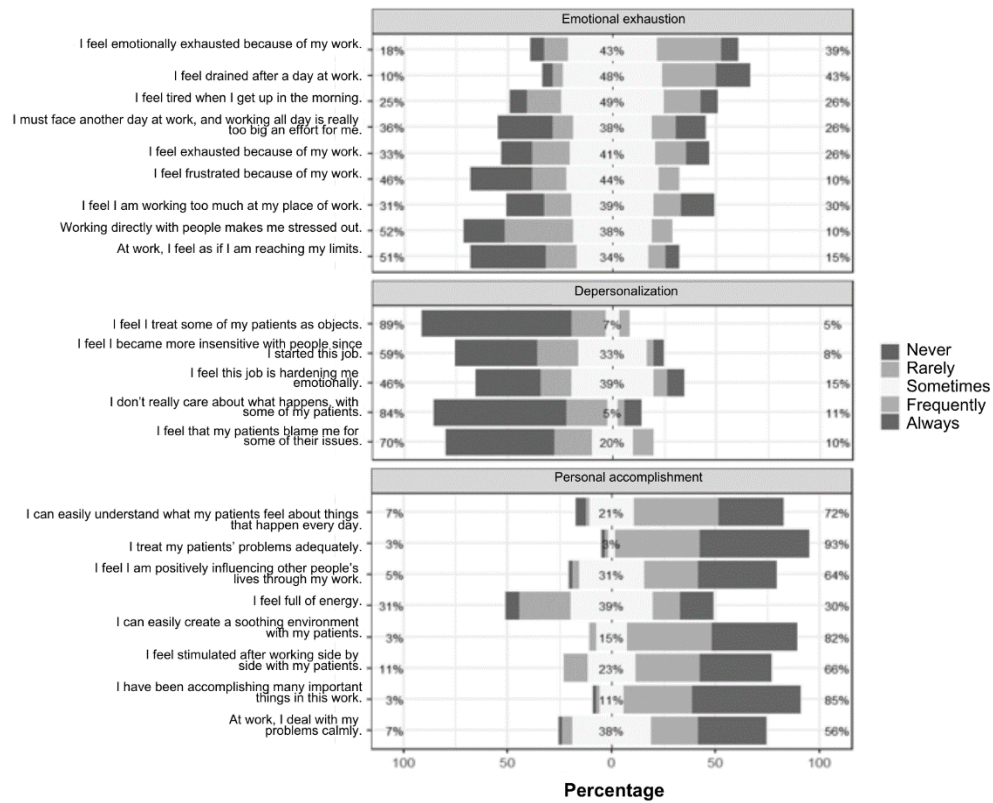


Figure 1. Frequency distribution of the participants' answers in the Maslach Burnout Inventory items and domains.

Attributing a scale from 1 (never) to 5 (always) for the answers to the MBI items, the scores for each of the three instrument domains was calculated with the mean scores of the items that compose it (Table 1). This was in accordance with the analysis of the scores obtained from this research participants in the three MBI domains.

Table 1. MBI domain and SOC dimension scores of the study participants

Domain of MBI	Mean	Standard deviation	Median	Minimum Value	Maximum Value
Emotional exhaustion	2.82	0.83	2.89	1.11	4.44
Depersonalization	1.93	0.69	1.80	1.00	3.80
Personal accomplishment	3.95	0.53	4.00	2.88	5.00
Dimension of SOC	Mean	Standard deviation	Median	Minimum Value	Maximum Value
Meaningfulness	4.05	0.97	4.00	2.33	7.00
Comprehensibility	4.75	1.12	4.80	2.20	7.00
Manageability	5.19	1.06	5.00	2.75	7.00

The MBI domain that presented the highest mean score (3.95 points), on a scale that varies between 1 and 5 points, was personal accomplishment. The depersonalization domain presented the lowest mean score (1.93 points). Nonetheless, the emotional exhaustion domain presented a 2.82-point mean.

Regarding the nursing professionals' sense of coherence assessment, the score for each of the three SOC dimensions was calculated as the mean of the punctuations of the items that compose it (1 to 7). Its description is presented in Figure 2 and Table 1.

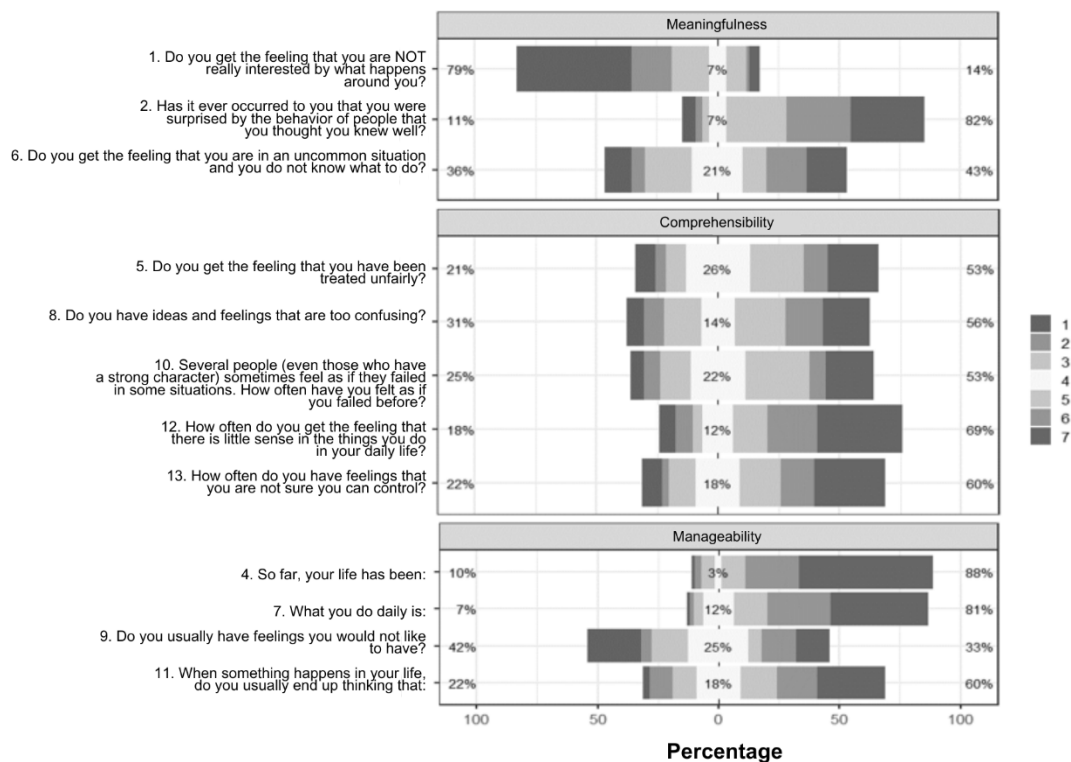


Figure 2. Frequency distribution of the participants' answers to the SOC questions

Table 1 shows that the SOC dimension that presented the highest mean score (5.19 points), on a scale that varies between 1 and 7 points, was manageability, and the lowest score found for this dimension was 2.75. However, the "Comprehensibility" dimension presented a 4.75-point mean.

Table 2 shows the correlation of sociodemographic characteristics with the MBI scores of this study participants.

Table 2. Correlation of sociodemographic characteristics with MBI domain scores

Variable	Emotional exhaustion	Depersonalization	Personal accomplishment
Age	-0.348 (0.006*)	-0.405 (0.001*)	0.221 (0.087)
Sex (Male)	-0.011 (0.803)	0.052 (0.26)	-0.02 (0.654)
How do you assess your eating habits?	-0.37 (0.003*)	-0.086 (0.509)	0.143 (0.273)
Do you have a religious affiliation? (Yes)	-0.022 (0.721)	-0.136 (0.034*)	0.051 (0.413)
Do you receive/Have you received psychological support at work? (Yes)	-0.195 (0.001*)	-0.051 (0.433)	0.199 (0.001*)
Do you feel fulfilled by your profession?	-0.453 (< 0.001*)	-0.172 (0.185)	0.504 (< 0.001*)
Do you believe that despite the current COVID-19 pandemic, you will be able to accomplish your personal or professional goals? (Yes)	-0.128 (0.091)	0.028 (0.733)	0.237 (0.002*)
How is your communication with your colleagues?	-0.461 (< 0.001*)	-0.347 (0.006*)	0.421 (0.001*)

*P-value < 0.05

It was found that age presented a significant correlation with the domains “Emotional exhaustion” and “Depersonalization” scores (p-values equal to 0.006 and 0.001, respectively). Both correlations were weak and negative (r_s equal to -0.348 and -0.405, respectively).

Assessing one’s eating habits positively also showed significant correlations (p-values equal to 0.033 and 0.003, respectively), as well as negatively (r_s equal to -0.119 and -0.37, respectively) with Emotional exhaustion. Likewise, there was a significant correlation between spirituality and feeling less prone to Depersonalization (p = 0.034). The professionals who reported this characteristic tend to present a smaller score of this domain, since their correlation was negative (D equal to -0.136).

Two factors that were significantly correlated with emotional exhaustion and personal accomplishment were receiving psychological support at work and the feeling of accomplishment with one’s professional (p ≤ 0.001). Such correlations were negative with the first domain, i. e., people who received psychological support and felt fulfilled with their professions presented less exhaustion; they were positive with the first domain, as the nurses who received psychological support and felt fulfilled with their professions also displayed Personal accomplishment.

The only feature that presented a significant correlation with the three domains was assessment of communication with colleagues (p < 0.006), which was negative with the emotional exhaustion and personal accomplishment domains (r_s of -0.461 e -0.347, respectively), and it was positive with personal accomplishment (r_s of 0.421). This indicated that a professional who has a good rapport with his/her colleagues experiences fewer feelings

of exhaustion and depersonalization and more personal accomplishment. It was also found that professionals who believed that despite the current COVID-19 pandemic, they would be able to accomplish their personal or professional goals had higher personal accomplishment scores. This means that this belief presented a significant, positive correlation with the Personal accomplishment domain ($p = 0.002$). For the other assessed correlations, there were not enough sample evidence that they were significant on a 5% level considering the correlation tests that were administered.

Regarding the correlations between the sociodemographic variables and SOC, it was found that none of the assessed characteristics presented a significant correlation with the meaningfulness dimension of SOC. However, characteristics such as “Age” ($p = 0.007$), “Do you receive/Have you received psychological support at work?” ($p = 0.038$), “Do you feel accomplished by your profession” ($p = 0.008$), and “Do you believe that, despite the current COVID-19 pandemic, you will be able to accomplish your personal/professional goals?” ($p < 0.001$) significantly correlate with the comprehensibility dimension score. In the four cases, the correlations were positive (coefficients equal to 0.344; 0.128; 0.337 e 0.283, respectively), suggesting that the more advanced the age, the more psychological support the participants received at work, the more they felt fulfilled professionally, and the more they believed they would accomplish their goals, the higher their scores in the “Comprehensibility” dimension. The data are presented on Table 3 as follows.

Table 3. Correlation of sociodemographic characteristics with SOC dimension scores

Variable	Meaningfulness	Comprehensibility	Manageability
Age	0.087 (0.466)	0.373 (0.001*)	0.342 (0.003*)
Sex (Male)	-0.036 (0.406)	-0.052 (0.202)	-0.05 (0.232)
Monthly income	-0.041 (0.734)	-0.08 (0.504)	0.335 (0.004*)
Time after university graduation	0.002 (0.988)	-0.090 (0.453)	0.289 (0.014*)
Do you receive/Have you received psychological support at work? (Yes)	0.015 (0.813)	0.094 (0.105)	0.178 (0.002*)
Do you feel fulfilled by your profession?	-0.144 (0.227)	0.292 (0.013*)	0.430 (< 0.001*)
Do you believe that despite the current COVID-19 pandemic, you will be able to accomplish your personal or professional goals? (Yes)	-0.031 (0.684)	0.206 (0.004*)	0.264 (< 0.001*)
How is your communication with your colleagues?	-0.193 (0.105)	0.161 (0.176)	0.369 (0.001*)

*P-value < 0.05

Regarding the “Manageability” dimension, there was a significant and positive correlation with the four factors indicated in the “Comprehensibility” dimension ($p < 0.001$; 0.014 ; < 0.001 ; and 0.004 ; and coefficients equal to 0.515 ; 0.154 ; 0.451 and 0.228 for age, psychological support, professional fulfillment and belief in accomplishing goals, respectively), as well as a significant correlation with other characteristics: monthly income ($p = 0.029$), time after university graduation ($p = 0.002$), and communication with colleagues ($p = 0.012$). All correlations are also positive (coefficients equal to 0.280 ; 0.380 and 0.321 , respectively). For the other assessed correlations, there were not enough sample evidence that they were significant on a 5% level considering the correlation tests that were administered.

Finally, while the MBI and SOC were correlated, it was found that none of the MBI domains was significantly correlated with the meaningfulness SOC dimension scores on the 5% level, according to the Spearman’s correlation test results. These data are found on Table 4.

Table 4. Correlation of MBI domain scores with SOC dimension scores

Domain	Meaningfulness	Comprehensibility	Manageability
Emotional exhaustion	-0.100 (0.444)	-0.447 (< 0.001*)	-0.572 (< 0.001*)
Depersonalization	-0.093 (0.477)	-0.339 (0.007*)	-0.383 (0.002*)
Personal accomplishment	-0.168 (0.196)	0.303 (0.018*)	0.581 (< 0.001*)

In Table 4, a different tendency was found in the other two SOC dimensions (Comprehensibility and Manageability), which presented a significant correlation with all the MBI domains ($p < 0.018$). They were negative with the emotional exhaustion domains (r_s of -0.447 and -0.572 , respectively) and depersonalization (r_s of -0.339 and -0.383 , respectively); they were positive with the personal accomplishment domain (r_s of 0.303 and 0.581 , respectively). This means that professionals who presented a level of comprehensibility higher than what occurs around them and manage to deal with conflicts better reported less exhaustion and depersonalization, as well as higher personal fulfillment.

DISCUSSION

This study analyzed burnout and sense of coherence in nursing professionals during the COVID-19 pandemic. Because the hospital environment is considered unsalutary, there is a predisposition to one’s falling ill. Nevertheless, hospitals are supposed to provide health care. The individuals working in this environment are susceptible to physical and psychological

suffering¹⁶. It must be pointed out that when work provides positive experiences, one of its benefits is individuals' professional fulfillment. However, negative experiences have the same power and present a determining factor for mental illness¹⁷.

With the COVID-19 pandemic, nursing service gained more visibility, and its importance was evident for health care. Nursing is one of the main pillars of all health services. It is irreplaceable, and it provides assistance and care that are essential to maintaining life. Valuing nursing professionals and its consequences on their service quality⁵ are topics of discussion, as they are at the front line in the fight against the virus. It has been a long time since these professionals started seeking acknowledgement and validation; despite the attention they have been receiving due to the pandemic nowadays, more than half of this study participants does not believe in their professional validation.

Nurses live with situations that influence their mental health daily, such as lack of structural quality, lack of professionals, and even difficulties in being acknowledged and valued¹⁸. The societies' view of nursing is still founded in the past. There is a common sense that this professional activity is focused on charity and alludes to an inferior class if compared to other professions¹⁸. Thus, health professionals commonly experience burnout, which is mainly caused by chronic stress conditions¹⁹.

In this study, it was found that only 36% of the participants always feel accomplished by their profession, which strengthens the interpretation that there are issues in their professional fulfillment. Their MBI scores (on a scale from 1 to 5) were basically low, especially for the "Depersonalization" and "Emotional exhaustion" domains. The only domain with a higher score was "Personal accomplishment". A similar result to this finding was seen in a previous study that assessed burnout in nursing professionals at a regional hospital in Piauí²⁰: it found low rates of depersonalization, emotional exhaustion, and personal accomplishment in MBI.

Generally, these domains remain interlinked. Emotional exhaustion is deemed the main manifestation for one's developing burnout¹⁹. However, exhaustion after a day of work showed high constancy. This may be rooted in a high workload, since 45.90% of the participants have a workload of more than 40 hours per week. In the current scenario, overwork may cause significant problems to professionals²¹. It is one of the obstacles for workplaces to become healthy⁵.

A negative correlation between age and emotional exhaustion and depersonalization domains was found. This indicated that the older individuals were, the lower these domain

scores were. Sociodemographic factors are frequently approached in the burnout context. Despite the existing studies on this topic, there is no concrete answer on an association between these variables yet ²². In this study, it was found that older professionals tend to present less emotional exhaustion and depersonalization. This result suggests the need for psychological support to the other age ranges.

The eating habits assessment variable presented significance; however, it was not linked to emotional exhaustion. It must be pointed out that foods usually provide well-being, but they may also cause unsatisfactory sensations. Some psychological disorders may be developed more easily in individuals with unbalanced eating habits or nutritional insufficiency ⁵.

The religion item was associated to depersonalization. The reason for having a partner or a religion is decisive for lower scores in the burnout manifestation dimensions. One of the most used practices to face problems is religious behaviors. Religion or faith provides the hope of overcoming and dealing with problems more easily ²³.

The nursing professionals who participated in this study acknowledged the importance of psychological support at the workplace, even though they cannot count on such assistance at their workplace. The nursing service workplace presents risk conditions, patient pain manageability, suffering, low salaries, and professional dissatisfaction, corroborating the emergence of burnout ²⁴. These professionals must have spaces that promote mental health, such as psychological support and social support networks ²⁵.

The devaluation of nursing has been described for a long time. In the current COVID-19 scenario, it became evident in spite of how important these professionals are ²⁶. The participants' feeling of professional dissatisfaction is an unfavorable influence on positive mental health. However, in the item "Do you believe that despite the current COVID-19 pandemic, you will be able to accomplish your personal or professional goals?", it was found that despite the pandemic, the feeling of professional accomplishment remained. These professionals believe they will be able to achieve their goals.

During the pandemic, some adaptations were required for their work, as well as several changes in their personal habits and family routines. These factors may have affected their mental health ²⁶. Studies conducted in China during the pandemic showed that health professionals started to present psychological alteration symptoms ²⁶. Thus, workers' mental health must be treated as a priority through health promotion actions ²⁷. Considering the context of mental health promotion, it was found that the psychological support received at work and

the good communication among professionals, as well as the psychological support provided by their managers, are important steps to prevent burnout.

Reflecting on what causes health, the salutogenic theory must be investigated. This model seeks to understand the key factors for promoting health in individuals. Even in conflicting everyday situations, some individuals still manage to maintain a health standard ¹¹. In this approach, the sense of coherence focuses on the basic factors for individuals to be able to deal with everyday adverse situations successfully. These events are not to cause diseases ¹¹.

While attempting to understand the relationship between the sense of coherence and sociodemographic characteristics, this study found that in the “Comprehensibility” dimension of SOC, scores were higher in older individuals compared to the younger ones. There were positive correlations regarding professional accomplishment in MBI and the belief in accomplishing goals. Similarly, in the “Manageability” dimension, factors such as age, time after university graduation, psychological support at work, and communication with colleagues were all positively correlated. It could be concluded that these factors strengthen the comprehensibility dimension ; consequently, individuals can deal with conflicts better.

Finally, the assessment of the relationship between MBI and SOC suggested that professionals who presented a level of comprehensibility higher than what occurs around them managed to deal with conflicts better, reported less exhaustion and depersonalization, as well as higher personal accomplishment. The sense of coherence is a tool necessary for maintaining health. It is found in all persons. Individuals with a strong SOC are privileged during conflicts compared to those whose SOC is weak ²⁸.

CONCLUSION

Understanding burnout and sense of coherence in nursing professionals, especially during the COVID-19 outbreak, is key to minimizing the repercussion and the growing damages in these professionals’ mental health throughout the pandemic.

Moreover, this study results present important contributions to promoting mental health, especially psychological support at the workplace and building sense of coherence in nursing professionals. This study also provides relevant references that may help discussions on new action plans to be carried out for this professional category.

ACKNOWLEDGMENTS

The authors would like to thank the Post-Graduate Program in Health Promotion and the Instituto Cesumar de Ciência, Tecnologia e Inovação (ICETI) for supporting the development and promotion of this research.

REFERENCES

1. Moreira WC, de Sousa AR, de Sousa Nóbrega MDPS. Mental illness in the general population and health professionals during COVID-19: A scoping review. *Texto & contexto enferm.* 2020; 29(e20200215):1–17. doi: 10.1590/1980-265X-TCE-2020-0215.
2. Faro A, Bahiano M de A, Nakano T de C, Reis C, da Silva BFP, Vitti LS. COVID-19 and mental health: The emergence of care. *Estud. psicol. (Campinas).* 2020; 37(e200074):1–14. doi: 10.1590/1982-0275202037e200074.
3. Teixeira CF de S, Soares CM, Souza EA, Lisboa ES, Pinto IC de M, de Andrade LR, et al. The health of healthcare professionals coping with the COVID-19 pandemic. *Ciênc. Saúde Colet.* 2020;25(9):3465–74. doi: 10.1590/1413-81232020259.19562020.
4. Bordignon M, Monteiro MI. Predictors of nursing workers' intention to leave the work unit, health institution and profession. *Rev Lat Am Enfermagem.* 2019;27(e3219):1-9. doi: 10.1590/1518-8345.3280.3219.
5. Oliveira PB de, Coca LN, Spiri WC. Associação entre absenteísmo e ambiente de trabalho dos técnicos de enfermagem. *Esc Anna Nery.* 2021;25(2):1-7. doi: 10.1590/2177-9465-EAN-2020-0223.
6. Castro TGM, Lima EP, Assunção AÁ. Overview of occupational surveys in brazil (2005-2015): A systematic review of the literature. *Ciênc. saúde coletiva.* 2019;24(8):2923–32. doi: 10.1590/1413-81232018248.18042017.
7. Rodrigues CCFM, Santos VEP, Sousa P. Patient safety and nursing: interface with stress and Burnout Syndrome. *Rev Bras Enferm.* 2017;70(5):1141-7. doi: 10.1590/0034-7167-2016-0194.
8. Nobre DFR, Rabiais ICM, Ribeiro PCPSV, Seabra PRC. Burnout assessment in nurses from a general emergency service. *Rev Bras Enferm.* 2019;72(6):1457–63. doi: 10.1590/0034-7167-2017-0870.
9. Lima RC. Distanciamento e isolamento sociais pela COVID-19 no Brasil: Impactos na saúde mental., *Physis.* 2020;30(2):1–10. doi: 10.1590/S0103-73312020300214.
10. Fekete OR, Kinn LG, Larsen TMB, Langeland E. Salutogenesis as a theoretical framework for psychosocial rehabilitation: the case of the Clubhouse model. *Int J Qual Stud Health Well-being.* 2020;15(1):1-14. doi: 10.1080/17482631.2020.1748942

11. Marçal CCB, Heidemann ITSB, Fernandes GCM, Rumor PCF, de Oliveira LS. The salutogenesis in health research: An integrative review. *Rev enferm UERJ*. 2018; 26 (e37954):1-6. doi: 10.12957/reuerj.2018.37954.
12. Justo-Henriques S. Contribution of health psychology in promoting pandemic salutogenic behaviour. *Psicol. saúde doenças*. 2020;21(02):297–310. doi: 10.15309/20psd210206.
13. Paiano M, Jaques AE, Nacamura PAB, Salci MA, Radovanovic CAT, Carreira L. Mental health of healthcare professionals in China during the new coronavirus pandemic: an integrative review. *Rev Bras Enferm*. 2020;73(e20200338):1-9. doi: 10.1590/0034-7167-2020-0338.
14. Maslach, C., Jackson, S. E. *Maslach Burnout Inventory*. 2º ed. Palo Alto, CA: Consulting Psychologist Press; 1986.
15. Antonovsky, A. The structure and properties of the Sense of Coherence scale. *Soc sci med*. 1993;36(6):725–733. doi: 10.1016/0277-9536(93)90033-Z.
16. Pereira NVA, Pinto WM. Processo saúde-doença entre profissionais de saúde de um hospital público no município de Serra Talhada-PE. *Rev.Multi.Sert*. 2020;2(2):274-283. doi: 10.37115/rms.v2i2.273.
17. Mattos AIS, de Araújo TM, de Almeida MMG. Interaction between demand-control and social support in the occurrence of common mental disorders. *Rev Saude Publica*. 2017; 51(48):1-9. doi: 10.1590/S1518-8787.2017051006446 1.
18. Moreira JM, Farah BF, Dutra HS, Sanhudo NF, Friedrich DBDC. Triggering factors of job (Dis)satisfaction among primary health care nurses. *Cienc. enferm*. 2019; 25(12):1-10. doi: 10.4067/s0717-95532019000100209.
19. Dutra HS, Gomes PAL, Garcia RN, Oliveira HC, Freitas SC, Guirardello EB. Burnout entre profissionais de enfermagem em hospitais no Brasil. *Rev Cuid*. 2019; 10(1):1-13. doi: 10.15649/cuidarte.v10i1.585.
20. Santana TR, Oliveira ALCB, Costa GR, Brito MA, Vilarinho LM, Dourado GOL, Fernandes MA. Síndrome de Burnout em profissionais de enfermagem de um hospital no Piauí. *Saude e pesqui*.2021;14(2):307-317. doi: 10.17765/2176-9206.2021v14n2e8426
21. Silva LS, Machado EL, Oliveira HN de, Ribeiro AP. Condições de trabalho e falta de informações sobre o impacto da COVID-19 entre trabalhadores da saúde. *Rev. bras. saúde ocup*. 2020;45(24):1-8. doi: 10.1590/2317-6369000014520.
22. Costa VHLB, Borsa JC, Damasio BF. Relações entre Burnout, Traços de Personalidade e Variáveis Sociodemográficas em Trabalhadores Brasileiros. *Psico USF*. 2020;25(3):439–50. doi: 10.1590/1413-82712020250304.
23. Tomaz HC, Tajra FS, Lima ACG, dos Santos MM. Burnout syndrome and associated factors among family health strategy professionals. *Interface (Botucatu, Online)*. 2020;24(e190634):1–15. doi: 10.1590/Interface.190634.

24. Vidotti V, Martins JT, Galdino MJQ, Ribeiro RP, Robazzi ML do CC. Burnout syndrome, occupational stress and quality of life among nursing workers. *Enferm glob.* 2019;18(3):344–54. doi: 10.6018/eglobal.18.3.325961.
25. Luz EMF, Munhoz OL, Morais BX, Greco PBT, Camponogara S, Magnago TSB de S. Repercussões da COVID-19 na saúde mental dos trabalhadores de enfermagem. *Rev. enferm. Cent.-Oeste Min.* 2020;10(e3824):1-8. doi: 10.19175/recom.v10i0.3824.
26. Duarte M de LC, Silva DG da, Bagatini MMC. Nursing and mental health: a reflection in the midst of the coronavirus pandemic. *Rev Gaúcha Enferm.* 2020; 42(e20200140):1-6. doi: 10.1590/1983-1447.2021.20200140.
27. Souza J, Oliveira JL, OLIVEIRA JLG, Almeida LY, Saint-ArnaultI DM. Promoção da saúde mental de mulheres: a influência da saúde física e do meio ambiente. *Rev Bras Enferm.* 2019. 72(3):191-8. doi: 10.1590/0034-7167-2018-0415.
28. Betke K, Basińska MA, Andruszkiewicz A. Sense of coherence and strategies for coping with stress among nurses. *BMC Nurs.* 2021;20(1):1-10. doi: 10.1186/s12912-021-00631-1.