

## COPING STRATEGIES DURING COVID-19 AMONG BRAZILIAN NURSING PROFESSIONALS: A MIXED METHOD STUDY\*

*ESTRATÉGIAS DE COPING DURANTE A COVID-19 ENTRE PROFISSIONAIS DE ENFERMAGEM BRASILEIROS: UM ESTUDO DE MÉTODO MISTO\**

*ESTRATEGIAS DE COPING DURANTE LA COVID-19 ENTRE PROFESIONALES DE ENFERMERÍA BRASILEÑOS: UN ESTUDIO DE MÉTODO MIXTO\**

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## ABSTRACT

**Objective:** to describe the strategies used to face the adversities arising from the COVID-19 pandemic by Brazilian Nursing professionals and to understand their experiences and feelings emerged in this context. **Methods:** mixed study, of the parallel-convergent type, carried out with non-probabilistic sampling with 1737 nurse practitioners from different regions of Brazil, by virtual questionnaire, on sociodemographic data and the Coping Strategies Inventory by Folkman and Lazarus. The variables associated with the study were verified by bivariate analysis. The qualitative data were discussed by Categorical-Content Thematic Analysis. **Results:** in the quantitative stage the coping strategies more frequently used by nurse practitioners were Positive reappraisal ( $1,26 \pm 0,62$ ), Problem-solving ( $1,14 \pm 0,56$ ) and Self-controlling ( $1,06 \pm 0,54$ ). There was also a significative comparison between the strategies Social Support ( $1,00 \pm 0,56$ ), Distancing ( $0,89 \pm 0,50$ ), Accepting responsibility ( $0,86 \pm 0,65$ ), Escape/Avoidance ( $0,84 \pm 0,55$ ) and Confrontation ( $0,65 \pm 0,45$ ). The professionals attributed motivation to move forward, collective support to deal with stressful situations, and the responsibility to fulfill their professional obligations even when faced with a high workload. **Conclusions:** most nursing professionals used functional strategies to face problems in the context of the pandemic. Using the strategies does not exclude the provision of space for discussing the difficulties related to the daily work of these professionals.

**Keywords:** Pandemic; Coronavirus Infection; Nursing Professionals; Mental Health; Coping Skills; Mixed Study.

## RESUMO

**Objetivo:** descrever as estratégias utilizadas para enfrentar as adversidades decorrentes da pandemia da COVID-19 pelos profissionais de Enfermagem brasileiros e compreender suas experiências e sentimentos resultantes desse contexto. **Métodos:** estudo misto, do tipo paralelo-convergente, realizado com amostragem não probabilística com 1737 enfermeiros de diferentes regiões do Brasil, por questionário virtual, sobre dados sociodemográficos e o Inventário de Estratégias de Coping de Folkman e Lazarus. As variáveis associadas ao estudo foram verificadas por análise bivariada. Os dados qualitativos foram discutidos por meio da Análise de Conteúdo Temático-Categorial. **Resultados:** na fase quantitativa, as estratégias de coping mais utilizadas pelos enfermeiros foram a Reavaliação positiva ( $1,26 \pm 0,62$ ), a Resolução de problemas ( $1,14 \pm 0,56$ ) e o Autocontrole ( $1,06 \pm 0,54$ ). Verificou-se também uma comparação significativa entre as estratégias Apoio Social ( $1,00 \pm 0,56$ ), Distanciamento ( $0,89 \pm 0,50$ ), Aceitação da responsabilidade ( $0,86 \pm 0,65$ ), Fuga/Evituação ( $0,84 \pm 0,55$ ) e Confrontação ( $0,65 \pm 0,45$ ). Os profissionais atribuíram a motivação para seguir em frente, o apoio coletivo para lidar com situações de stress e a responsabilidade de cumprir as suas obrigações profissionais mesmo quando enfrentam uma carga de trabalho elevada. **Conclusões:** a maioria dos profissionais de enfermagem utilizou estratégias funcionais para enfrentar os problemas no contexto da pandemia. A utilização das estratégias não exclui a disponibilização de espaço para discussão das dificuldades relacionadas ao cotidiano de trabalho desses profissionais.

**Palavras-chave:** Pandemia; Infecção por Coronavírus; Profissionais de Enfermagem; Saúde Mental; Competências de Coping; Estudo Misto.

## RESUMEN

**Objetivo:** describir las estrategias utilizadas para enfrentar las adversidades derivadas de la pandemia de COVID-19 por los profesionales de Enfermería brasileños y comprender sus experiencias y sentimientos resultantes de ese contexto. **Métodos:** estudio mixto, paralelo-convergente, realizado con muestreo no probabilístico con 1737 enfermeros de diferentes regiones de Brasil, utilizando cuestionario virtual, sobre datos sociodemográficos y el Inventario de Estrategias de Coping de Folkman y Lazarus. Las variables asociadas al estudio fueron verificadas mediante análisis bivariado. Los datos cualitativos se discutieron mediante Análisis de Contenido Temático-Categorico. **Resultados:** en la fase cuantitativa, las estrategias de Coping más utilizadas por los enfermeros fueron Reevaluación Positiva ( $1,26 \pm 0,62$ ), Resolución de Problemas ( $1,14 \pm 0,56$ ) y Autocontrol ( $1,06 \pm 0,54$ ). También hubo comparación significativa entre las estrategias Apoyo Social ( $1,00 \pm 0,56$ ), Distanciamiento ( $0,89 \pm 0,50$ ), Aceptación de responsabilidad ( $0,86 \pm 0,65$ ), Escape/Evitación ( $0,84 \pm 0,55$ ) y Confrontación ( $0,65 \pm 0,45$ ). Los profesionales atribuyeron la motivación para seguir adelante, el apoyo colectivo para afrontar situaciones estresantes y la responsabilidad de cumplir con sus obligaciones profesionales incluso cuando enfrentan una alta carga de trabajo. **Conclusiones:** la mayoría de los profesionales de

*enfermería utilizaron estrategias funcionales para enfrentar los problemas en el contexto de la pandemia. El uso de estrategias no excluye la provisión de espacios para discutir dificultades relacionadas con el trabajo diario de estos profesionales.*

**Palabras clave:** Pandemia; COVID-19; Enfermeras Practicantes; Salud Mental; Habilidades de Coping; Estudio Mixto.

## INTRODUCTION

In December 2019, a phenomenon caught the attention of the international community: several cases of pneumonia caused by a previously unknown viral strain were identified in China, with many people hospitalized for Severe Acute Respiratory Syndrome (SARS). Scientists later discovered that the causative agent was a coronavirus (SARS-CoV-2), which causes COVID-19<sup>(1)</sup>. In late January 2020, the WHO declared the outbreak of this new coronavirus a public health risk event due to its potential for international spread, constituting a Public Health Emergency of International Concern. Between March 11, 2020 and May 5, 2023, the WHO declared the COVID-19 pandemic<sup>(2)</sup>.

In Brazil, up to July 2024, 712,502 deaths from COVID-19 had been recorded. Up to October 2021, 873 nursing professionals had been registered, including 617 nursing assistants or technicians and 256 nurses<sup>(3)</sup>. A review study points out that during the COVID-19 pandemic, the repercussions to the mental health of health practitioners tend to persist and cause deleterious effects in the long term, and it suggests that strategic actions at the individual and collective level be conducted to reduce emotional damages and psychological harm in health teams. However, damages to mental health tend to be neglected, but these disturbances can be minimized and/or avoided through mental health care and psychiatric care<sup>(4)</sup>. From the perspective of understanding the meanings given by Brazilian nursing professionals to their experiences, and the impacts on their mental health, in the reality of COVID-19 pandemic, studies point to the outbreak of countless negative feelings such as anxiety, fear of being contaminated, taking the virus to their families, imminent death of patients and co-workers, findings that point out the necessity of psychosocial support<sup>(5)</sup>.

Regardless of the pandemic, nursing professionals faced conflicts in their relationships with patients, relatives and co-workers, as well as overload and exhaustion at work due to demands and responsibilities, without, however, having social support<sup>(6)</sup>. A study highlights that in the context of the COVID-19 pandemic, in the failure and absence of support to

professionals in work institutions<sup>(5)</sup>, they had to reinvent themselves and deal with a new reality for the profession and be able to identify new forms of distress, to

reorganize their lives in order to restore their connections and social interactions<sup>(6)</sup>. Therefore, coping strategies as a set of intentional, cognitive and behavioral measures are used to help people adapt to the different circumstances of life<sup>(7,8)</sup>.

Considering that each person deals with, controls or adapts to stressful events, and when they do not have resources or these are insufficient, they gradually move towards a process of erosion of their motivational abilities, weakening their psychic strength and loss of ability to resolve internal and external conflicts, opening space for mental illness.

Understanding the threats to mental health and the coping strategies that nursing professionals use to deal with work demands, it is possible to prospect strategies that help develop skills to master stressful situations, reframe circumstances and discover ways of transformation and/or adaptation to challenges<sup>(9)</sup>. Some studies were conducted on the process of coping in health professionals during the pandemic. However, it is observed that there is still a scarcity of Brazilian research carried out only with nursing professionals dealing with their coping with the adversities resulting from the health crisis as well as the strategies used.

Therefore, the research question was outlined: "What strategies were used and what experiences and feelings emerged linked to facing the adversities arising from the COVID-19 pandemic by Brazilian nursing professionals?"

The hypothesis for quantitative study is that nursing professionals utilized both functional and dysfunctional coping strategies. It is suggested that the functional coping strategies used by nurse practitioners are related to the variables gender, marital status, psychological support, medication use, weekly workload, religion. And it is also suggested that functional coping strategies are more used by female nursing professionals. The qualitative study, in turn, made it possible to understand the experiences and feelings linked to such confrontations, which enabled better analytical possibilities.

Aligned with this, the objective of this research is to describe the strategies used to face the adversities arising from the COVID-19 pandemic by Brazilian nursing professionals and to understand their experiences and feelings emerged in this context.

## METHOD

This research was guided by a mixed methods approach, which relates a quantitative study and a qualitative one. The quantitative study describes the coping strategies used by nurse professionals in dealing with the

adversities coming from COVID-19 pandemic. To access the experiences of nurse professionals, a qualitative study was applied, since they cannot be numerically evaluated. All the recommendations from the guidelines Mixed Methods Appraisal Tool version 2018 were followed<sup>(10)</sup>. This study is part of a larger research, called: Estudo-VidaMentalCOVID-19 (COVID-19 Mental Life Study, in English), with the main objective to analyze mental health of Brazilian nursing professionals during COVID-19 pandemic. To conduct the quantitative study, the objective was defined: to evaluate the relation between coping strategies and sociodemographic and occupational data, and aspects related to physical and mental health.

For the qualitative study, in order to investigate the visions and expectations of nursing professionals, crossing coping strategies with sociodemographic and occupational variables, and aspects related to mental and physical health, the following questions arose: How did the nursing professionals experience COVID-19 pandemic? What were the coping strategies used by nurse practitioners to deal with internal or external demands brought by COVID-19 pandemic? The following objectives were set: (i) To comprehend how nurse practitioners, at the peak of COVID-19 pandemic, dealt with the situations coming from the health crisis; (ii) To analyze the means that Brazilian nursing professionals used to overcome the adversities in the face of working process, personal and familiar life.

For quantitative and qualitative studies, a heterogeneous sample was intended to reveal susceptibility and secondary traumatization through identification with co-workers who suffer from working on the front line (health populations and environments)<sup>(4)</sup>. The sample consisted of 1,737 professionals, who met the inclusion criteria: being formal workers in health services or educational institutions during the COVID-19 pandemic and having a degree in nursing or nursing technician level. Those who did not respond fully to the research instrument were excluded. Data collect portrays the pandemic period from April 22nd to June 08th 2020, carried out in a virtual environment, available in social media such as: Facebook, Instagram, Twitter and WhatsApp. A total of 1,897 professionals responded to the survey. After cleaning the database, 159 responses were excluded due to incompleteness, leaving 1,737. Of these, 40 blocks of sentences were selected that answered the question: What were the coping strategies used by nurse practitioners to deal with internal or external demands brought by COVID-19 pandemic?

The qualitative study involved 40 professionals from the five regions of Brazil, working at any level of health care and workplaces. Qualitative and quantitative data were collected simultaneously and compared in order to determine convergences, differences and combinations. It began with a non-probabilistic sample, obtained by snowball method, which consists of a type of intentional sampling, in which the first participants indicate new respondents. Nurse professionals in Brazil were requested to answer and share the questionnaire among their peers.

The questionnaire consisted of 41 questions distributed in five sections: 1 - free and informed consent form; 2- sociodemographic and occupational; 3- aspects related to mental and physical health; 4- specificities of the pandemic context; and 5- Folkman and Lazarus Inventory of Coping Strategies (ICFL) as thoughts and actions, in facing internal and external demands, during the COVID-19 pandemic<sup>(7)</sup>, and the open question: Tell us about their experiences and feelings during the COVID-19 pandemic.

The Coping Strategies Inventory by Folkman and Lazarus (ICFL) was translated and validated into Brazilian Portuguese, showing the existence of correspondence between the original version in English and the translated one, enabling its application in others studies<sup>(11)</sup>. Cronbach's coefficient alpha, in the original study, fluctuated between 0,56 to 0,85 in between the factors. It encompasses thoughts and behavioral actions which people use to manage internal or external demands triggered by a specific stressful event and it consists of 66 items, which are answered in a Likert-type scale, with four possible answers (0: I did not use this strategy; 1: I used a little; 2: I used plenty; 3: I used a lot). It does not present total score as a summation to evaluation, since the items must be evaluated through average scores within each factor.

The items that constitute IFCL are separated in eight factors: Confrontation, Distancing, Self-controlling, Social Support, Accepting responsibility, Escape/Avoidance, Problem-solving, Positive Reappraisal. These factors were classified into two categories: 1-functional strategies, composed by Self-controlling, Social Support, Problem-solving and Positive Reappraisal; 2- Dysfunctional strategies corresponds to Confrontation, Distancing, Escape/Avoidance, and Accepting responsibility<sup>(11)</sup>.

Regarding the quantitative data, the sample's descriptive characteristics were obtained through absolute and relative frequencies in the qualitative variables, and it was used media and standard deviation (SD) to the quantitative variables. Initially, for the inferential data analysis, the normality of data was evaluated through



Kolmogorov-Smirnov test. In comparison, Mann-Whitney U test and Kruskal-Wallis test (ANOVA F-test) were applied, and univariate and bivariate analysis to compare social and clinic profile and by regions of Brazil with the ICFL domains. For those with significance in multivariate analysis, a post-hoc test was applied, using Dunn's test. A significance level of 5% and a reliability level of 95% were considered. It used the 26 SPSS version.

For the analysis of qualitative data, the Categorical-Content Thematic Analysis was used: (i) pre-analysis - reading of material, orientation and guidance in the impressions analysis; (ii) exploration - carrying out the distribution, classification scheme and organization of excerpts, sentences and other parts characteristics of the investigated phenomenon; dialoguing with categories proposed by the scale used, namely: confrontation, distancing, self-controlling, social support, accepting responsibility, escape/avoidance, problem-solving, positive reappraisal; (iii) interpretation - themes referring to the categories of the scale were extracted from the reports, which were gathered and analyzed through the Categorical-Content Thematic Analysis method, which consists in a set of communication analysis techniques, using systematic and objectives procedures of description of messages contents<sup>(12)</sup>. The study followed all ethical precepts contained in Resolution 466/2012, approved by the National Research Ethics Commission with opinion number 3,954,557 and CAEE 30359220.4.0000.0008.

## RESULTS

As a parallel-convergent mixed study, quantitative and qualitative data were integrated to produce a more profound comprehension of the findings. Convergence enabled us to unveil the procedures of collection, analysis and discussion in a continuous movement of comparison, confrontation and corroboration of the study results. Among the 1.737 Brazilian nursing professionals, most were female (87,4%), married (53,4%), white (51,2%), aged between 20 to 59 years (97,4%), Catholics (50,4%), residents in the Southeast (32.3%), Northeast (26.8%).

Regarding the clinical profile, they did not begin a psychological treatment (92,3%) or psychiatric treatment (94%) during the pandemic; before the pandemic, (90,9%) they did not use psychiatric medication. They related tobacco consumption (7,9%) and alcoholic beverages (50,1%). The majority of the sample (40,7%) works with a weekly workload of 40h, they have an average monthly income of 1 to 3 minimum wages (40,7%) (Table 1).

Regarding the analysis of the means of ICFL factors, it is observed that the highest means were in the strategies: Positive Reappraisal ( $1.26 \pm 0.62$ ) followed by Problem-Solving ( $1.14 \pm 0.59$ ) and Self-controlling ( $1.06 \pm 0.54$ ) (Table 2). When ICFL categories were compared to the sociodemographic variables, there was a significant comparison between gender and Social Support, Escape/Avoidance, Positive Reappraisal; between the factor's marital status and the Distancing, Self-controlling, Acceptance of Responsibility, Escape/Avoidance; and between the variable religion, the Acceptance of Responsibility, Escape/Avoidance, Positive Reappraisal factors (Table 2).

The comparison between the clinical variables with the factors of each ICFL category pointed out that the variable psychological support presented a significant comparison, except with Problem-solving. The variable psychiatric treatment had a significant comparison with the factors Social Support and Escape/Avoidance. The variable use of psychiatric medication showed a significant comparison with Confrontation, Self-Controlling, Acceptance of Responsibility and Escape/Avoidance. Regarding tobacco use, there was a significant comparison with the Confrontation, Escape/Avoidance and Distancing factors. The variable alcohol use had a significant comparison with the factors Confrontation, Distancing, Social Support, Acceptance of Responsibility and Escape/Avoidance (Table 2). Finally, the comparisons with the variables occupational pointed out that the weekly workload had a significant comparison with the factors Self-controlling, Acceptance of Responsibility, Escape/Avoidance; and the variable monthly wage income had a significant comparison with most of the ICFL factors, except for Confrontation (Table 2).

Regarding the reports of nursing professionals, it was observed that few used the strategy (factor) Confrontation ( $0.65 \pm 0.46$ ) in the face of the situation experienced by the pandemic, through fights and discussions in the work environment. They also tended to move away from the feelings of sadness experienced and Escape/Avoidance ( $0.85 \pm 0.56$ ) from suffering through the use of alcohol and food, wishing that everything was just a nightmare. The reports also revealed that the use of the strategy (factor) Self-controlling ( $1.06 \pm 0.54$ ) was given by breathing to calm down. The use of the strategy (factor) Social Support ( $1.01 \pm 0.53$ ) for the relationship with co-workers and bosses. The use of the problem-solving strategy (factor) ( $1.4 \pm 0.59$ ) with the intention of changing the situation for the better, realizing how this could make them stronger to face adversities. The use of measures to resolve the suffering experienced, such as the strategy (factor)

Table 1 - Characterization of the social profile of Brazilian nursing professionals. n: 1737. 2020

	N(%)
<b>Gender</b>	
Female	1518(87.4)
Male	219(12.6)
<b>Marital status</b>	
Married/stable union	
Single/Window	
<b>Race/Ethnicity</b>	
White	889(51.2)
Brown	635(36.6)
Black	170(9.8)
Other	43(2.5)
<b>Religion</b>	
Catholic	767(44.2)
Evangelical Christian	372(21.4)
Other	340(19.6)
Non-religious	258(14.9)
<b>Did you used to have any kind of psychological assistance BEFORE the COVID-19 pandemic?</b>	
No	1331(76.6)
Yes	406(23.4)
<b>Have you started any kind of psychological assistance in the context of COVID-19 pandemic?</b>	
No	1604(92.3)
Yes	133(7.7)
<b>Did you have any kind of psychiatric treatment BEFORE the COVID-19 pandemic?</b>	
No	1322(76.1)
Yes	415(23.9)
<b>Have you started any kind of psychiatric treatment in the context of COVID-19 pandemic?</b>	
No	1632(94.0)
Yes	105(6.0)
<b>Did you use any non-prescribed psychiatric medication BEFORE the COVID-19 pandemic?</b>	
No	1552(89.3)
Yes	185(10.7)
<b>Do you use any non-prescribed psychiatric medication in the context of COVID-19 pandemic?</b>	
No	1579(90.9)
Yes	158(9.1)
<b>Are you a smoker?</b>	
No	851(49.0)
Yes	886(51.0)

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Table 1 - Characterization of the social profile of Brazilian nursing professionals. n: 1737. 2020

	N(%)
<b>Do you consume alcoholic beverages?</b>	
No	851(49.0)
Yes	886(51.0)
<b>4 - 6 MW Total monthly income (Summing all salary gains, consider the Current Minimum Wage BRL 1.045,00)*</b>	
<1 MW	67(3.9)
1 - 3 MW	707(40.7)
4 - 6 MW	577(33.2)
7 - 9 MW	252(14.5)
> 10 MW	134(7.7)
<b>Weekly workload</b>	
20 hours/week	73(4.6)
36 hours/week	382(24.2)
40 hours/week	643(40.7)
44 hours/week	136(8.6)
More than 44 hours/week	344(21.8)

\* approximately US\$200.

Distancing ( $0.89 \pm 0.50$ ) from social media and religiosity. The use of the strategy (factor) Positive reappraisal ( $1.26 \pm 0.62$ ), verifying situations from a new perspective, in addition to the feeling of hope for better days. In addition to Acceptance of Responsibility ( $0.86 \pm 0.65$ ) that even with fear of the unknown, the feeling of being ready to help. (Table 2).

The empirical material produced through the reports of 40 participants was related accordingly with ICFL factors, and mentions the factors Confrontation, Distancing, Self-controlling, Problem-solving, Positive reappraisal, Escape/avoidance, Acceptance of Responsibility, Social Support, which enabled a better comprehension of how the COVID-19 pandemic context reflected on the lives of these professionals (Figure 1).

## DISCUSSION

The present study investigated the main coping strategies used by nursing professionals during the health crisis of COVID-19 pandemic. Problem-Solving, Self-Controlling and Positive Reappraisal stood out, the latter being the most relevant strategy. This fact shows that the majority of nurse practitioners used functional strategies, which are related to the positive ways of facing the problems.

The strategy (factor) Positive Reappraisal enables a reinterpretation of the situation experienced, seeking

Table 2. Characterization of answers from the Coping Strategies Inventory of Brazilian nurse practitioners, variables which had a significant comparison with the Inventory categories and more frequent reports N:1737. 2020

Categories (Factors)	Mean± Standard Deviation	Significative comparisons
Confrontation	0,65±0,45	Psychological assistance (Y>N); Psychiatric treatment (Y>N); Use of psychiatric medications (Y>N); Tobacco consumption (Y>N); Alcohol consumption (Y>N).
Distancing	0,88±0,50	Psychological assistance (Y>N); Psychiatric treatment (Y>N); Use of psychiatric medications (Y>N); Tobacco consumption (Y>N); Alcohol consumption (Y>N).
Self-controlling	1,06±0,54	Gender (F>M); Marital status (S>M); Psychological assistance (Y>N); Use of psychiatric medications (Y>N); Weekly workload (44h>others).
Social support	1,00±0,56	Psychological assistance (Y>N); Psychiatric treatment (Y>N); Use of psychiatric medications (Y>N).
Acceptance of responsibility	0,86±0,65	Marital status (Si>M); Religion (N>Y); Psychological assistance (Y>N); Weekly workload (44h>20h); Monthly income (7 to 9>others).
Escape/avoidance	0,84±0,55	Religion (N>Y); Psychological assistance (Y>N); Psychiatric treatment (Y>N); Use of psychiatric medications (Y>N).
Problem-solving	1,14±0,56	There were no significative comparisons.
Positive reappraisal	1,26±0,62	Religion (Y>N); Psychological assistance (Y>N).

\*Y=yes; N=No; Y>N=mean of Yes higher than No; M=married; Si=single; M>Si= mean of married people higher than mean of single people; Si>C= mean of single people higher than the mean of married people; 44h>20h= mean of professionals working 44 weekly hours is higher than that of those who work 20 weekly hours; 7 to 9>Others= professionals who earn from 7 to 9 MW (+-US\$200) have a higher than those with other income values; 44h>others = the mean of professionals who work 44 h/week is higher than those who work less than that.

Figure 1 - Reports of Brazilian nurse practitioners accordingly with factors from Coping Strategies Inventory. 2020

Categories (Factors)	Reports
Confrontation	“(..) at the beginning of the pandemic I thought I was freaking out. I got stressed, I fought with the boss, I argued with two co-workers, I couldn't sleep properly at night” (E10). “(..) when the pandemic started I felt powerless, frightened, guilty for being afraid of face the problem face to face like the co-workers nurses that were in front line” (E18)
Distancing	“(..) I've been drinking alcohol more than normal, crying is a constant (E29). “(..) going to the work shift is a struggle between duty and fear. The feeling is helplessness, as if this would never end, and for those who are single, it is bad due to loneliness”(E9)
Self-controlling	“(..) at the beginning of the pandemic I had anxiety attacks (...) I did breathing exercises and I managed to calm myself down, (...) I started doing some relaxing exercises, and I got a medical leave” (E10) “(..) my psychological state is more shaken, although I am trying minimize with drug therapy” (E24) “(..) I'm not mentally safe due to this context, I am having a crying crisis again. I want to continue the medication which I had already been using because of the current situation. (E38)

Continue...

...continuation.

Social support	<p>(...) I can see good things, I have a lot of support from my leading team, I have friends from work that are awesome, and who make up for the difficult ones. It's because of them that I continue, that I move on and I fight for doing the best I can." (E37)</p> <p>(...) sometimes I have helplessness feelings, without someone to support myself, I have bad dreams, nightmares, anguish for so many deaths and because some things didn't work out." (E35)</p> <p>(...) with the COVID-19 event I panicked, I had anxiety, fear before the suspect cases and confirmed ones, today I do psychiatric and psychological treatment and I am managing to work more undisturbedly.</p> <p>(...) I had been having psychiatric and psychological assistance by videoconference, I used to call and I did self-assessment, and it was it that helped me to cope.</p>
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Table 3 - Reports of Brazilian nurse practitioners accordingly with factors from Coping Strategies Inventory. 2020

Categories (Factors)	Reports
Acceptance of responsibility	<p>(...) it's all unknown. But together we will get through and to overcome this pandemic... Always carefully, with responsibility and empathy" (E11)</p> <p>(...) although with fear of the situation, I felt ready to acting in front line, in case it was necessary, after all, I couldn't deny my training, being best or worst than my co-workers that bravely were/are facing with the situation" (E18)</p>
Escape/avoidance	<p>(... ) I wish it was all a gigantic nightmare and that when I woke up, everything would have been sorted out" (E12).</p> <p>(...) I try to run away from my feelings of loss and sadness, but they follow me wherever I'll go" (E14).</p> <p>(...) when I wake up I don't wanna go to work, I just wanna cry... I can't stand being another underpaid workforce. I want to have someone to share all that work with" (E5)</p> <p>(...) I have been in panic, doped by the drugs prescribed by the doctor regularly and in use in case of emergency, when I can sleep, usually it is because of medication" (E5).</p>

growth and a change of perspective<sup>(11)</sup>. In a study with health professionals during the pandemic this data was also relevant, showing that these workers seek to overcome difficult times by focusing on hope and on better days<sup>(13)</sup>.

In the present study, there was an association between the strategy (factor) Positive Reappraisal and those who had a religion, underwent psychological attendance and were female. It is considered that religion strengthened the development of spirituality, and consequently helped in strength, ability to work, feelings of optimism, faith and hope, according to the professionals' reports.

For many people, religion provides a sense of meaning and purpose, a connection to a larger community, a source of comfort and support in times of difficulty, and can help them feel less alone and more empowered to cope its challenges<sup>(14)</sup>. However, having psychological care allows professionals to introspect and analyze their ways of dealing with everyday adversities, especially women who use more coping strategies than men, especially strategies focused on emotion, such as emotional release.

The second most used strategy (factor) was Problem-Solving, which is focused on actions to modify the stressor context, and obtained a significant comparison only with the monthly income variable. A systematic review of Brazilian studies on coping strategies used by workers from different health areas and variables associated

with coping, showed that Problem-Solving was effective in reducing occupational stress, which can be an important element to be considered in the design of occupational interventions aimed at this public<sup>(15)</sup>.

The positive association of this strategy (Problem Solving) with those who had a higher monthly income can be corroborated by the literature by demonstrating that nurses who received less financial support had a worse quality of life but that salary income, although important, is not the main motivating factor, especially when taking into account other factors such as workload and working conditions offered<sup>(16)</sup>.

Regarding the strategy (factor) Self-controlling, although no association was found with the gender variable, it was the most used strategy among female professionals. It is known that during the pandemic, women were more affected from the point of view of the overload of work, household and responsibility tasks as a whole, demanding from them numerous tasks in the family and professional spheres, and this manifested itself with activities of relaxation such as breathing but also with the use of medication, according to the reports of these professionals.

A finding in the present study shows that those who declared themselves to be single, compared to those who were married, used the strategy (factor) Self-controlling more. This finding may be related to the fact that

single professionals, unlike those who have a double shift (home-work), especially with children, have more time and better environmental conditions to carry out self-control activities of their emotions, such as meditative and control practices of breathing<sup>(17)</sup>.

Furthermore, it is believed that as a result of the psychological attendance, the professionals developed self-knowledge and self-awareness, and with the psychotherapeutic process, they used more of the strategies (factors) of Self-controlling and Problem-Solving. In the study, a significant association of the strategy (factor) Self-controlling was identified among those with a higher workload. This association may be related to the fact of the need to use Self-controlling to carry out the leadership function, with responsibility and resilience, even facing the workload of more than 44 hours per week<sup>(17)</sup>.

Another strategy (factor) used by the participants and more used by women was Social Support. As an essential aspect of human life, men and women experience different types and levels of social support and this provides a sense of belonging, emotional security and practical assistance in times of need, and can significantly impact health and well-being especially in times of stress and adversity<sup>(18)</sup>.

Thus, studies show that women tend to have more social support than men, often seeking more emotional support from their friends and family, since they are more likely to share their problems and concerns with others, seeking advice and guidance from their social networks, in contrast to men who are more likely to rely on their partners or spouses for emotional support and may be less likely to seek support from others<sup>(19)</sup>. Frontline nurses who treated patients with COVID-19 reported that the greater the organizational and social support provided, the lower their levels of pandemic-related anxiety, and that decreased social support was closely related to a greater level of exhaustion during the health crisis<sup>(18)</sup>.

Receiving social support helps deal with difficult situations, reduces fears, and promotes a sense of security in frontline workers<sup>(14)</sup>. Thus, it was clear that the use of the Social Support strategy evidenced in the statements was able to strengthen the nursing team in the present study, in facing stressors, facilitating coexistence between members, developing skills and promoting motivation and satisfaction at work.

The present study also found a significant association between the strategy (factor) Social Support among those undergoing psychiatric assistance. In this way, it can be assumed that those who had adequate psychiatric support had a positive perception of the support network,

demonstrated through the speeches, in addition to the strengthening of bonds with friends and co-workers, despite being permeated by feelings of anxiety, fear, anguish.

Among the researched strategies (factors), there is Distancing, which promotes the attempt to escape the problem and the denial of situations that cause possible emotional harm. In this study, there was an association with the use of Distancing among those who did not undergo psychological attendance, which may have been a way for professionals not to face psychological suffering, due to the lack of effective coping strategies<sup>(13)</sup>.

Another association found in the present study was the strategy (factor) Distancing with marital status. A study points out that married professionals have a higher rate of absence from work, because they have more domestic responsibilities or marital problems, as these can cause stress and emotional tension to workers and affect their ability to perform their work efficiently<sup>(20)</sup>.

The reports related to the strategy (factor) Acceptance of Responsibility used by the professionals point out that, even though they were afraid of the situation caused by the pandemic, they accepted their responsibility as a member of the team, without denying their training, engaging individually and collectively in overcoming the moment experienced. By using the strategy (factor) Acceptance of Responsibility, professionals promote recognition of their own actions and decisions, they can have a sense of control and empowerment that help reduce anxiety and increase the ability to face adversity and stressful situations<sup>(21)</sup>.

Although the strategy (factor) Acceptance of Responsibility was more used among those who had no religion, it is important to emphasize that responsibility can be shaped by cultural norms and expectations of society, since, in many cultures, individuals are expected to prioritize their family, community and society above their personal wants or needs. Therefore, understanding the different perceptions of responsibility is crucial to building effective communication and cooperation in the workplace and society<sup>(22)</sup>.

In addition, it was pointed out that those who worked longer hours also used more strategy (factor) Acceptance of Responsibility, pointing out that even in the face of a high workload, professionals did not fail to fulfill their professional duties. This finding is corroborated by the literature that points to responsibility as a powerful coping strategy to manage stress and other difficult situations in the work environment, and by taking responsibility for their actions and decisions, individuals can



recover a sense of belonging, control and empowerment and decrease their frustration<sup>(13)</sup>.

The present study showed that the strategy (factor) Escape/Avoidance was more used by women, single professionals, and those who had no religion, with significant associations. In the reports, professionals pointed out the escape of feelings, use of medications and absence from work as the most used means to escape the suffering experienced in the pandemic. It is noteworthy that spiritual support is one of the tools that strengthen the emotional health of people who experience moments of stress<sup>(22)</sup>. The use of psychoactive substances ends up being used as a means of distraction/escape from feelings of loneliness or isolation, or in situations that affect mental health<sup>(23, 24)</sup>.

Previous studies have reported an increase in alcohol and tobacco consumption during the period of social isolation imposed by the COVID-19 pandemic as a response to depressive symptoms or as a way to avoid the situation experienced<sup>(25, 26, 27)</sup>, with a prevalence of 14.72% and 16.88% in the increase of alcohol and tobacco, respectively<sup>(17,25)</sup>. In addition, the strategy (factor) Escape/Avoidance was identified in the professionals' reports when they use it as a justification for overwork and wage devaluation, which was confirmed by the statistical analyzes, which pointed to the significant association of this strategy among those with lower income and longer workload. In this way, avoiding/running away from the high workload causes the individual to become distracted from their reality, giving a false sense of problem solving and stress.

Regarding the strategy (factor) Confrontation, which is characterized by aggressive confrontation, expression of anger and lack of flexibility in the face of stressful situations<sup>(11)</sup>, it can be used by the team and superiors in scenarios that border on catastrophes, such as the health crisis in question, however, in the present study, was the least used. Possibly the bonds established between nursing professionals acted as an element of motivation to move forward, as demonstrated in reports related to feelings of guilt for not working and supporting colleagues who were working on the front line.

At the same time, they also collectively dealt with work stress, fights with colleagues and bosses, insomnia and fear of facing the situation. A finding also found in studies in the pre-pandemic period and in a Brazilian systematic review with workers in general, where the strategy (factor) Confrontation was the least used among the individuals surveyed<sup>(18,28)</sup>, that is, professionals seek ways to cope complex situations through dialogue and group cohesion.

The limitations of this study are inherent to its methodological design regarding the use of self-report, which may include biased or socially desirable responses, and to the cross-sectional design, in which causality cannot be inferred. However, they bring the experiences of nursing professionals and coping strategies and point out ways for actions to support this professional category.

## CONCLUSION

This study aimed to analyze the coping strategies used by Brazilian nursing professionals at the peak of the COVID-19 pandemic, and showed that most nursing professionals used functional strategies to face the problems they had. The most used coping strategies were Positive Reappraisal, Problem-Solving and Self-Controlling. The lowest means in ascending order were in the strategies: Confrontation, Escape/Avoidance, Acceptance of Responsibility, Distancing and Social Support. The findings of this study point to the commitment of work institutions to accommodate the emotional demands of nursing professionals, helping them to manage catastrophic situations and crises in the work environment.

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