




## Analysis of Stress and Coping in Relatives of Patients Admitted to the ICU

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**Abstract:** Admissions in ICUs are potentially adverse events that present significant challenges to the patients's relatives. This study aimed to describe the stressful events and coping strategies adopted by relatives of patients admitted to the ICU. In total, 35 individuals participated and answered a sociodemographic questionnaire, the Environmental Stressor Questionnaire (ESQ), and the brief inventory of coping (Brief-COPE), and 10 were interviewed. Results showed that the most stressful events include difficulties in communication with the team, and coping focused on problem and emotion were the most used. The data showed associations between ESQ scores and coping strategies. Among the participants, two groups were found, a cluster of individuals with more adaptive strategies and another cluster with less beneficial behaviors, which differed in terms of the coping and content presented in the interviews. Relatives indicated religiosity, patience, and resignation as more adaptive coping strategies.

**Keywords:** intensive care units, stress, coping behavior, caregivers

### Análise sobre Estresse e Enfrentamento em Familiares de Pacientes Internados em UTI

**Resumo:** Internações em UTI são eventos potencialmente adversos que apresentam desafios importantes aos familiares do paciente. Este estudo teve como objetivo descrever relações entre eventos estressores e estratégias de enfrentamento adotadas por familiares de pacientes internados em UTI. Participaram da pesquisa 35 indivíduos que responderam questionário sociodemográfico, Estressores em Unidade de Terapia Intensiva (ESQ) e inventário breve sobre enfrentamento (Brief-COPE) e entre esses familiares, dez foram entrevistados. Os resultados mostraram que os eventos mais estressores incluem dificuldades de comunicação com equipe e uso majoritário de enfrentamento focalizado no problema e na emoção. Os dados evidenciaram associações entre escores no ESQ e tipos de enfrentamento. Houve diferenciação entre dois grupos, um cluster de indivíduos com estratégias mais adaptativas e outro cluster com comportamentos menos benéficos, que diferiram acerca do tipo de enfrentamento e conteúdos apresentados nas entrevistas. A religiosidade, paciência e resignação foram relatadas pelos familiares como formas mais adaptativas de enfrentamento.

**Palavras-chave:** unidades de terapia intensiva, stress, enfrentamento, cuidadores

### Análisis del Estrés y Afrontamiento en Familias de Pacientes Ingresados en UCI

**Resumen:** Los ingresos en UCI son eventos potencialmente estresantes que presentan desafíos importantes para los miembros de la familia del paciente. Este estudio tuvo como objetivo describir la relación entre los eventos estresantes y las estrategias de afrontamiento adoptadas por las familias de los pacientes ingresados en UCI. En el estudio participaron 35 personas que respondieron a un cuestionario sociodemográfico, *Environmental Stressor Questionnaire* (ESQ) e inventario breve de afrontamiento (Brief-COPE), de las cuales se entrevistaron a diez. Los resultados mostraron que los eventos más estresantes fueron las dificultades de comunicación con el equipo y el mayor uso de estrategias de afrontamiento centradas en el problema y la emoción. Hubo asociaciones entre los puntajes en el ESQ y los tipos de afrontamiento. Se encontró una diferenciación entre dos grupos: uno con individuos con estrategias más adaptativas y el otro con comportamientos menos beneficiosos, que difirieron en cuanto a la forma de afrontamiento y contenido presentado en las entrevistas. Los participantes informaron que la religión, la paciencia y la resignación eran formas de afrontamiento más adaptativas.

**Palabras clave:** unidad de cuidados intensivos, estrés, enfrentamiento, cuidadores

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Intensive Care Units (ICUs) are hospital departments that attend critically ill patients—with significant risk of death—and have uninterrupted care from the health team. This context can present significant stressors to patients and their relatives, demanding coping strategies to deal with such challenges (Nogueira, Ferreira, Albuquerque, & Agra, 2017).

The pioneer in the study of health stress, Hans Selye, defined in 1985 that a stressor event would be any element

capable of extracting the organism from its initial equilibrium, or homeostasis (Selye, 1985). This imbalance reaction influenced by changes in the environment would require coping strategies to minimize the adverse effects arising from stressors, a process originally known as coping. Thus, Lazarus and Folkman (1984) define coping as “cognitive and behavioral efforts to manage [minimizing, avoiding, or tolerating] specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (p. 141).

Traditionally, the most common coping strategies were classified as problem-focusing (characterized as the subject’s effort to modify or to control the stress-generating situation) and emotion-focusing, whose primary function is to regulate the emotional response mobilized by the stressful event, which may correspond to palliative attitudes and withdrawal from the adverse element, that is, the subject focuses on managing the emotional consequences of the challenge at hand, often when the source of stress is not fully manageable (Lazarus & Folkman, 1984).

However, the study by Martínez-Villamea, Alonso-Rodríguez, Sánchez-Vallejo, and Gallego-Lorenzo (2019) highlights several coping classifications based on functional categories. The authors emphasize that the strategies are diverse and can be categorized into problem-focusing, social support, avoidance, cognitive restructuring, and emotion-focused (rumination, helplessness, or emotional regulation), with the first two categories being the most used.

The literature indicates that strategies based on the search for social support and problem-focusing are associated with better adaptations to the context, whereas avoidant and emotion-focused coping strategies are associated with greater psychological disturbances such as anxiety and depression (Martínez-Villamea et al., 2019). Although the literature suggests that the person-situation interaction leads to stress, some situations are typically stressful, such as the hospitalization of a relative in an ICU.

Experiences of patients shared with their families can leave emotional sequelae in both groups (Gil-Juliá, Ballester-Arnal, Bernat-Adell, Giménez-García, & Castro-Calvo, 2018; Lopes, Iepson, & Costa, 2020; Silva, Menezes, Alves, Amaral, & Poveda, 2019). The main difficulties experienced in ICU admission include environmental (temperature, noise), physiological (physical discomfort), and socio-familial aspects (impossibility of proper communication with the family) (Gil-Juliá et al., 2018; Lana, Mittmann, Moszkowicz, & Pereira, 2018; Magalhães et al., 2014; Silva et al., 2019).

Treatment in the ICU requires family adaptations, considering that relatives experience a crisis with unexpected transitions, as well as interruption of the daily routine, in addition to labor, financial, and family organization difficulties (Gonçalves, Ferreira, Zanini, Vasconcelos, & Gonçalves 2015; Pessini, 2016; Reis, Gabarra, & More, 2016). The main challenges experienced by family members include barriers to communication with the team, difficulties with bedside visits, need for greater support from health care professionals and the family, family reorganization to provide care to the patient,

fear of death or sequelae and difficulties in seeing other patients suffering (Gil-Juliá et al., 2018; Nogueira et al., 2017; Puggina et al., 2014; Reis et al., 2016). The study by González-Escobar, Álvarez-Yañez, and Sánchez-Palencia (2014) highlighted as a priority the need to receive information and daily availability from the physician, followed by demands on the patient’s clinical improvement and social support.

This potentially adverse scenario demands that family members develop coping strategies, and the literature on the subject shows similar associations between problem-focused coping and the search for social support and better psychological conditions for adaptation (Dallalana & Batista, 2014; Fetsch et al., 2016), whereas the focus on emotion was associated with higher rates of psychological disturbances (Martínez-Villamea et al., 2019). There is an association between types of coping and repercussions for the family member, but there is no deepening of the relationship between the magnitude of the perceived stress and the increase in the use of coping strategies.

Most researchers focus on the strategies used, but Dallalana and Batista (2014) indicate that sometimes the family member finds it difficult to cope with the situation due to high levels of stress and obstacles to adaptation, suggesting that the magnitude of the perceived stress may be related to greater or lesser use of coping strategies. This evidence on how family members interpret stress could support more efficient and protective interventions, focused on the individual experience. Moreover, the literature does not present in-depth mixed methodologies that can effectively highlight adaptive advantages of different types of coping and show confluence and complementarity between quantitative and qualitative data.

In addition to problem-focused strategies and social support, other studies include religiosity as a relevant coping practice to family members (Dallalana & Batista, 2014; Fetsch et al., 2016; Nogueira et al., 2017). Religiosity, optimism, humanization in care and trust in the medical team have been identified as more adaptive strategies, being associated with lesser disturbances in anxiety, depression, and post-traumatic disorder (Nogueira et al., 2017).

Based on the literature, research on the subject generally focuses on working with a qualitative or quantitative approach. Fundamentally, these are descriptive research, not addressing how the magnitude of stress can promote greater use of different coping strategies or whether different types of strategies are related to better adaptation to the context, increasing the need for more in-depth research.

Therefore, this study aimed to describe the relationship between stressful events and coping strategies adopted by family members of ICU patients. Some specific objectives were proposed: to describe which stressor elements are most experienced by family members of ICU patients, to describe the coping strategies adopted by the participants, and to explore associations between stressors and categories of coping strategies, using mixed methods. The study’s guiding hypotheses included:

Hypothesis 1 (H1): there will be a statistically significant association between sociodemographic/clinical data and stress scores, as well as coping strategies.

Hypothesis 2 (H2): the most common strategies will be adaptive strategies, focusing on problem management.

Hypothesis 3 (H3): a greater number of stressors indicated by family members will be associated with a greater number of coping strategies.

Hypothesis 4 (H4): there will be two groups of participants regarding the grouping of more adaptive strategies (those focusing on the problem) or less adaptive (focused on emotion and/or avoidant coping).

Hypothesis 5 (H5): these two groups will differ in the content of the interviews coherently with their groupings: the group with better adaptation will present more varied coping strategies, with a focus on problem solving and adaptive management of emotions, while the group with less adaptive coping will show descriptive reports of strategies based on escape-avoidance. A mixed-method design was used to supplement H5 and add validity to the work (Creswell & Clark, 2010).

## Method

### Participants

Data collection was conducted over six months, with invitations to all eligible family members, with a final sample of 35 participants, including spouses, children, siblings, and grandchildren of ICU patients, family members invited to join the study for the convenience of availability. For every three participants, the next one was asked to respond to a semi-structured interview, comprising 10 participants who were interviewed. Inclusion criteria were: individual aged over 18 years, literate, having visited their loved one in the ICU at least once, and being a family member of a patient aged over 18 years who was hospitalized for a diagnosis of cardiovascular, renal, pulmonary, hematological, autoimmune, infectious and contagious, and/or degenerative diseases. Exclusion criteria were: history of psychiatric diagnosis or presenting difficulties in cognitive functions.

The sample was composed of 18 women and 17 men, 17 married and 18 single, divorced or widowed individuals, aged from 23 to 64 years ( $M = 42.54$  years;  $SD = 11.75$ ). Out of these, 19 had higher education, 13 high school and three elementary school, 16 indicated being Catholic, 14 being Evangelical, one indicated a spiritualist religion and the others mentioned lack of religious practice.

Considering family income, 22 participants mentioned receiving from zero to six minimum wages, five indicated income above nine minimum wages and eight people did not answer. In the sample, 17 people indicated having two or three children, eight participants mentioned being parents of only children and 10 individuals did not mention children. Only one participant was married to the hospitalized person, 27 participants were children of the patients, four were siblings and three were grandchildren. In total, 19 patients were female and the age of the hospitalized patients ranged from 34 to 88 years ( $M = 68.83$ ;  $SD = 13.47$ ).

The number of visits to the ICU was distributed between one and 21 visits ( $M = 5.26$ ,  $SD = 5.3$ ), while the length of stay ranged from one day to 27 days ( $M = 8.57$ ,  $SD = 7.7$ ). A total of 18 participants had no previous contact with the ICU environment and 34 people mentioned full understanding of the diagnosis. Finally, 19 participants received psychological support in the ICU.

### Instruments

#### *Sociodemographic and knowledge questionnaire about the diagnosis*

This questionnaire was developed specifically for this study, consisting of sociodemographic data (gender, age, marital status, education level, occupation, number of children, religion, monthly family income, and history of psychiatric illness) and questions about hospitalized family members (degree of kinship, sex, age, marital status, education level, profession, religion, reason for admission to the ICU, length of stay, number of visits to the patient, and knowledge regarding the treatment and procedures provided to the patient in the ICU).

#### *Brazilian Version Adapted from The Environmental Stressor Questionnaire (ESQ)*

The Environmental Stressor Questionnaire (ESQ) by Cornock (1998) was used to identify and to measure stressors in the ICU. The Brazilian version called *Estressores em Unidade de Terapia Intensiva* was validated by Rosa, Rodrigues, Gallani, Spana, and Pereira (2010), comprising 50 items (Cronbach's  $\alpha = 0.96$ ). Examples of items include "not knowing the length of stay in the ICU," "fear of death," "staff talking too loudly," and "not receiving information about the treatment."

The 50 items are described by statements and must be answered on a five-point Likert scale: (1) not stressful; (2) moderately stressful; (3) very stressful and (4) extremely stressful and (0) not applicable—which can be used if the participant has not lived the mentioned item. This measure can be used in different ways: the simple average of each item represents the level of intensity that a item has for the respondent and the total average represents the level of stress on a scale from 0 to 4. Another possibility is the simple sum of all items, representing a stress level that can be comprised between zero and 200 points at the most (Rosa et al., 2010).

#### *Brazilian Version of the Brief Coping Orientation to Problems Experienced Inventory (Brief-COPE)*

Brief-COPE (Carver, Scheier, & Weintraub, 1989) was adopted to describe coping strategies. The instrument was validated for the Brazilian context in a reduced version (Gonçalves-Câmara, Carlotto, & Bedin, 2019), the Brief-COPE is composed of 28 items, answered on a gradual scale from one to five regarding frequency of use for each strategy, resulting in three factors:

problem focus (Cronbach's  $\alpha=0.75$ ), emotion focus (Cronbach's  $\alpha=0.76$ ), and avoidant coping (Cronbach's  $\alpha=0.69$ ).

Examples of problem-focused items include "I try to find a strategy for what to do" and "I set aside other activities to focus on the problem." Items related to emotion-focused coping involve "I feel distressed and let my emotions surface" and "I talk to someone about how I feel." Sentences relating to avoidant coping include, for example, "I use alcohol or medication to think less about the situation" and "I refuse to believe that the situation has happened."

#### *Semi-structured interview script* (Qualitative step - Embedded)

A semi-structured interview script was designed specifically for this study to understand information on hospitalization, influence of hospitalization on the family member's life, difficulties experienced, coping strategies, perceptions about changes or learning from the hospitalization experience, and suggestions to other family members/caregivers. Examples of questions included "how is the hospitalization going? What do you find most difficult?," "do you think you would have something different to deal better with this situation?," and "what would you say to other people with family members admitted to the ICU?."

#### **Procedures**

**Data collection.** The participants were invited at the hospital reception and/or in the waiting room. Family members were invited to participate in the research, and those who accepted to participate and met the inclusion criteria signed an informed consent form. Then, the instruments were answered individually, in a single meeting, in an assisted application scheme in a specific and private room in the following order: sociodemographic questionnaire, ESQ, Brief-COPE, and semi-structured interview.

**Data analysis.** The associations between sociodemographic data, coping, and stressors—predicted in H1—were investigated using non-parametric inferential statistical tests, such as the Wilcoxon, Kruskal-Wallis, and Spearman correlations, depending on the specific characteristics of the variables. For the H2 and H3 tests, descriptive and inferential statistics were used for bivariate Pearson correlation. For the H4 test, a two-step cluster analysis with logarithm approximation was performed. For cluster feeding, the three coping categories and scores of stressors were used. For organization and analysis of quantitative data, the Statistical Package for Social Sciences - SPSS Windows version 20.0 was used.

For the H5 test, the lexical analysis was performed as proposed by Bardin (1977). The analysis was using the Iramuteq software. The first step was lexicographic analysis, which identifies units of text and reduces them to primary lexical units, identifying active forms (e.g. verbs) and supplementary forms (e.g. verb complements)

and their frequencies based on a standardized dictionary used by the software. This step is preliminary to the Hierarchical Analysis of Cluster (HCA) that calculates and displays the dendrogram. HCA groups vocabularies that are in the same text segment and integrates segments according to the vocabulary used. The dendrogram presents the lexicons in hierarchical order from highest to lowest frequency as well as the size of the class of words found. The calculation of the difference between groups of coping strategies for all lexical classes was performed using Chi-square.

#### **Ethical Considerations**

To comply with the ethical standards in health research - Resolution No. 466/2012 of the Brazilian Ministry of Health—which covers human beings—this research was submitted and approved by the Research Ethics Committee of the Centro Universitário de Brasília UniCEUB, protocol 2034202/2017 and CAAE 66666417.2.0000.0023. The research data are confidential and kept in physical and digital files under the care and responsibility of the researcher.

#### **Results**

No statistically significant associations were observed between sociodemographic data, clinical condition, ESQ, or Brief-COPE scores, refuting H1. These tables will not be presented in the study, but they can be requested from the researchers. Regarding the total scores obtained by each participant in the ESQ, a balanced dispersion was observed, varying between 50 and 172 points ( $M = 121$ ;  $SD = 29.36$ ), with the highest score in the sample (172) being more than three times higher than the lowest score (50) found. Only one participant was in the first quartile (up to 50 points), 10 respondents were in the second quartile (51–100 points), most subjects ( $N = 19$ ) were in the third quartile (101–150 points) and five people were located in the last quartile (151–200 points). Table 1 shows the five items that received the highest score and the five items that received the lowest score on the ESQ.

Considering that the score variation ranges from zero (not applicable) to four points (extremely stressful), the results indicate that the lack of information on the patient's treatment is the most stressful aspect in this context. Then, the following aspects were identified: the patient feeling some kind of pain and seeing them being afraid of dying or feeling insecure. On the other hand, the aspects perceived as less impactful were the physical environment that was not very stimulating, having the presence of nurses frequently performing tasks at the bedside and observing the patient being constantly examined by the team. Considering the data presented by Brief-COPE and its association with the ESQ, Table 2 presents the most common strategies adopted by the participants and their correlation with the level of stressors evidenced by the sample.

Table 1  
*Descriptive analysis of ESQ Scale items*

Item	M	SD
Not receiving explanations about your family member's treatment	3.46	0.82
Seeing your family member in pain	3.31	0.87
Seeing your family member insecure or afraid of dying	3.26	0.98
Listening to the heart monitor alarm go off	3.23	1.06
Not knowing the length of stay in the ICU	3.23	1.00
Seeing your family member being woken up by the nursing staff	1.57	0.78
Observing treatments being given to other patients	1.54	0.70
Seeing your family member being frequently examined by the medical or nursing staff	1.51	0.95
Having the nurse constantly doing tasks around the patient's bed	1.49	0.74
Very unstimulating physical environment, white, without decoration or distractions	1.43	0.74

Table 2  
*Brief-COPE descriptive statistics and correlations between coping and stressors (alpha diagonal)*

	M	SD	1	2	3	4
1 Focus on the Problem	3.51	0.74	(0.75)			
2 Focus on Emotion	3.86	0.58	.64**	(0.76)		
3 Escape-avoidance	1.39	0.60	-.25	-.07	(0.69)	
4 Stressors in general Intensive Care Unit (ESQ)	2.42	0.59	.35*	.16	.03	(0.96)

Note. N = 35; \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

Consistent with H2, the results in Table 2 suggest that the most common strategies used by family members are focused on the problem and emotion, that is, strategies that are more adaptive to the adverse context, with little use of avoidant coping. However, diverging from H3, the only strategy that showed a significant and moderate correlation with ESQ was focusing on the problem. This data refute H3.

Cluster analysis suggested a mean cluster silhouette (0.5) and relatively similar group sizes (Cluster 1 = 45.7%,  $N = 16$ ; Cluster 2 = 54.3%,  $N = 19$ ). Table 3 presents the analysis in relation to the clusters of participants. Note that, Cluster 1 presents more adaptive strategies and Cluster 2 less beneficial to the adverse context. This result supports H4.

Table 3  
*Difference between clusters (ANOVA)*

		M	SD	Z	p
Focus on the Problem	1 <sup>1</sup>	4.18	.43	77.52	.00
	2 <sup>2</sup>	2.95	.40		
Focus on Emotion	1	4.23	.49	18.77	.00
	2	3.55	.45		
Escape-avoidance	1	1.26	.36	1.32	.26
	2	1.50	.74		
Stressors in general Intensive Care Unit (ESQ)	1	2.74	.46	11.47	.01
	2	2.15	.55		

Note. <sup>1</sup>Group 1 - with adaptive strategies  $N = 16$ ; <sup>2</sup>Group 2 - with less adaptive strategies  $N = 19$ .

It can be seen in Table 3 that the groups had a significant difference in the two adaptive factors and in the ESQ, but for the avoidant strategies there was no statistically significant difference. An in-depth interview was carried out with 10 family members to proceed with the H5 test. Figure 1 shows the five classes that emerged based on the interviewees' reports and the Chi-square differences between Group 1 and Group 2 regarding the content presented in the five response classes.

Class 4, which had the highest concentration of reports, was related to specific demands of the hospital, involving patient care, organization of the routine according to the treatment and relationship with the health team, according to the example above: "when she came to be hospitalized we had to reorganize, I left one of the jobs because I wasn't managing to organize myself, so it got a little messy, because we had a schedule and with her coming to the ICU this organization was broken, so we had to reorganize."

Then, Class 3 indicated the second highest concentration of reports. This category was associated with changes in the daily lives of family members and in domestic care, as in the example "I have a brother who works with me, he has been helping me, we have made a schedule, both in the hospital and in the professional functions."

Class 1, with intermediate concentrations of reports, was related to the focus on religiosity, need for patience and resignation in the face of treatment, and included, as an example, "I get much more attached to God, to leave it in His hands, I know He's taking care of it, what's best for him [patient], the Lord will do it, so we're calm about it and ask God, pray, each one with their religion, so that He takes care in the best way possible and if that's His will, we'll understand."

On the other hand, Class 5 obtained relatively less concentration of reports and was related to strategies to deal with the situation, with optimism and good expectations. An example of a report in this category: "I have to be strong, right, my family helps me a lot, especially my mother, so I always try to be positive."

Finally, Class 2—which had the lowest concentration of reports—was associated with changes in life caused by the treatment and difficulties arising from this transition, as in the example: "I'm getting to know myself better, seeing my limits as far as I can go, I never imagined I would have that strength, I imagined that anything that happened to him I would despair, but I'm managing to be strong, to dissociate, to be positive, that's what I'm taking as my main experience, I didn't think I would be able to react that way."

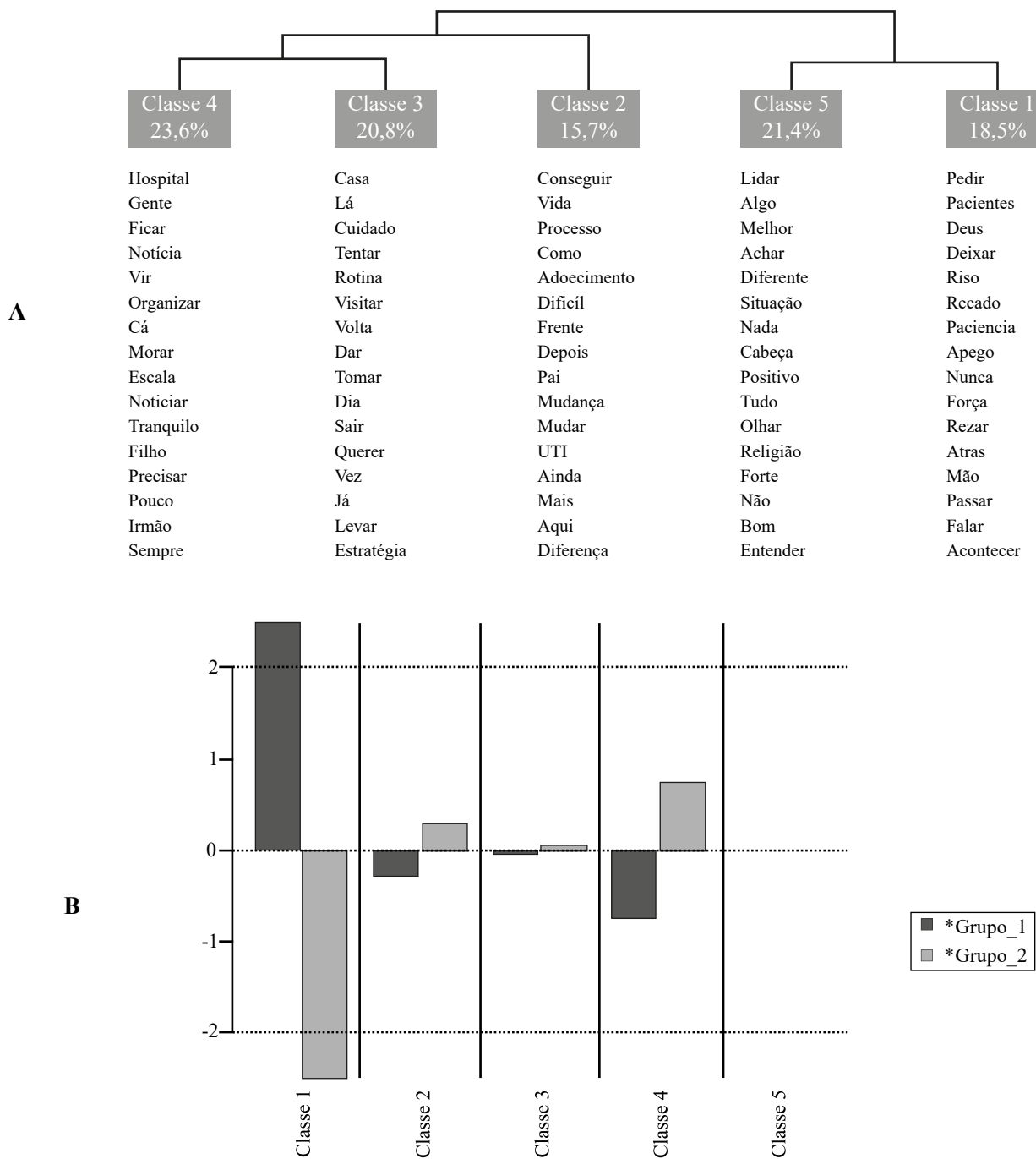


Figure 1. Dendrogram of word classes for the entire *corpus* of respondents (A) and chi-square between word classes and cluster membership (B). *Note.* Group 1: cluster of participants with more adaptive strategies; Group 2: cluster of participants with less adaptive strategies.

Figure 1 presents empirical support for H5, highlighting relevant differences in the discourse of Cluster 1 (participants with better adaptation to treatment in the ICU, with fewer experiences of stress and greater focus on managing the problem and the emotion) and Cluster 2 (sample with less adaptation to the stressful context, presenting greater stress levels and lower uses of all coping strategies, adaptive or not).

Classes 1, 4, and 2 had opposite prevalences between the two groups of participants, with evident differences in Class 1. Cluster 1 indicated many reports in Class 1, related to the focus on religiosity, need for patience and resignation in the face of treatment, while in the same category Cluster 2 showed a contrary concentration regarding prevalence of content in the interview.

Conversely, in Class 4, regarding specific demands of the hospital—involving patient care, organization of the routine according to the treatment, and relationship with the health team—Cluster 2 showed a stronger discourse, while Cluster 1 indicated lower content in this category. A similar pattern was observed in Class 2, associated with changes in life brought about by the treatment and difficulties arising from this transition, although with smaller differences between the groups. Notably, Class 3 (relating to changes in the daily lives of family members and domestic care) and Class 5 (strategies to deal with the situation, with optimism and good expectations) showed no differences in discourse between the two groups.

## Discussion

Considering the hypotheses formulated for this study, we highlight that H1 was refuted, as no statistically significant associations between sociodemographic and clinical data and stress scores and coping factors were found; the absence of statistically significant values can be explained by the small sample size, the main limitation of this study. H2 was confirmed, indicating that the most common strategies were adaptive ones, with a focus on problem management. However, H3 was refuted, as the only strategy that showed a significant and moderate correlation with ESQ was problem-focusing. The H4 predicted different groups, grouping more adaptive strategies (problem and emotion-focused) and less adaptive strategies (avoidant coping). Finally, H5 also had empirical support, with differences regarding the content verbalized in the interviews with different patterns of stress and coping between the groups.

The results corroborate the literature. Participants highlighted the lack of information about the treatment, seeing the family member feeling pain or discomfort, insecurity about the success of the treatment and fear of death as the most stressful elements, reports that are in agreement with recent studies (Gil-Juliá et al., 2018; Lana et al., 2018; Magalhães et al., 2014; Nogueira et al., 2017; Puggina et al., 2014; Reis et al., 2016; Silva et al., 2019). González-Escobar et al. (2014) emphasized good communication as a moderating element to the experience of stress in the ICU, an aspect also emphasized in this study as the main stressful event during hospitalization.

Family members mentioned physical environment that was not very stimulating, nurses often performing tasks at the bedside and observing the patient being constantly examined by the team, as less stressful elements, results indicated in other studies (Gil-Juliá et al., 2018; Lana et al., 2018; Magalhães et al., 2014; Nogueira et al., 2017; Puggina et al., 2014; Reis et al., 2016; Silva et al., 2019). The sample indicated the adoption of diversified strategies, with concentration of behaviors focused on the problem and on managing emotions, consistent with other studies (Martínez-Villamea et al., 2019; Nogueira et al., 2017). Notably, the interviews emphasized the use of religiosity and the importance of social support, in line with the literature (Dallalana & Batista, 2014; Fetsch et al., 2016; Nogueira et al., 2017).

We highlight weak associations between coping and the perception of a stressful environment, that is, the greater or lesser perception of stress does not imply greater use of coping strategies, as the literature suggests (Martínez-Villamea et al., 2019; Nogueira et al., 2017). The relations are practically null, suggesting that there may be a cognitive mediator (for example, the perception of self-efficacy) a research hypothesis that goes beyond the scope of this study and remains a suggestion for future research.

This study emphasizes additional associations between the instruments scores and the discourse presented in the interviews, by mixed-method analysis: participants with less adaptive coping strategies described greater reports of resignation and uncontrollability of the situation, in addition to less mobilization for patient support, whereas the family members with more adaptive coping strategies reported a lower prevalence of discourse in this sense, with greater mobilization for patient care.

This work confirms that the most frequently used strategies are problem solving and social support, which do not have a direct relationship with the magnitude of perceived stress. The most adaptive coping strategies gather in clusters and present clearly different reports regarding religiosity, need for patience, and resignation. This data contributes to the advancement of the area and suggests the importance of new research with mixed methods (Beehr, 2019; Zeidan, Johnson, Diamond, David, & Goolkasian, 2010). In addition to the mixed methodological approach, which constitutes an innovative contribution to this research, it is noteworthy that this is the first Brazilian work published on this topic, representing a significant contribution to the area. The results described here are an important subsidy, to promote more efficient psychosocial interventions for family members in the context of hospitalization in the ICU.

In conclusion, the data from the interviews indicated elements that are in line with the literature: participants mentioned primarily mobilization due to the hospital demands, involving patient care, a sudden reorganization of the routine and the importance of the relationship with the health care team. Then, they highlighted changes in daily life and in domestic care as difficulties in this context. This content corroborates with the literature, which highlights the difficulties especially associated with disruptions in family dynamics, financial and organizational challenges, changes in routine and lack of social support (Gonçalves et al., 2015; Nogueira et al., 2017; Pessini, 2016; Reis et al., 2016).

Considering that the small sample size is the main limitation of this study, we suggest that future research expand the number of participants and carry out long-term follow-ups, describing late effects of stressors and changes in coping strategies throughout the process. Furthermore, this further research should include interventions with the patients' families in order to improve adaptation to the potentially adverse context of hospitalization in the ICU.

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