Cadernos Brasileiros de Terapia Ocupacional
Brazilian Journal of Occupational Therapy

ISSN 2526-8910

Original Article

Perception of stress, Burnout syndrome and coping strategies in caregivers of institutionalized older adults: a correlation study

Percepção de estresse, síndrome de Burnout e estratégias de enfrentamento em cuidadores de pessoas idosas institucionalizadas: estudo de correlação

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How to cite: Silva, A. F. O., Barbosa, G. C., Monteiro, D. Q., Martins, G., & Gratão, A. C. M. (2024). Perception of stress, Burnout syndrome and coping strategies in caregivers of institutionalized older adults: a correlation study. *Cadernos Brasileiros de Terapia Ocupacional*, *32*, e3864. https://doi.org/10.1590/2526-8910.ctoAO398138642

Abstract

Introduction: Acting as a caregiver for institutionalized elderly people has been shown to be susceptible to stress, which in a chronic and adaptive way can lead to Burnout syndrome. In this context, coping strategies can mitigate or delay the negative impact of organizational factors. **Objectives:** To analyze the perception of stress and burnout syndrome in formal caregivers of institutionalized elderly people and to verify their correlation with coping strategies. **Method:** A cross-sectional study conducted with 54 professionals who provide care to elderly people living in three long-term care institutions. A sociodemographic, labor and health characterization questionnaire was used; the Perceived Stress Scale; the Maslach Burnout Inventory - Human Services Survey (MBI-HSS); and the Occupational Coping Scale were also used. The correlation between the values obtained by the instruments was verified using the LOESS statistical method. All ethical precepts were followed. **Results:** There was a predominance of female participants, aged between 36 and 51 years, completed high school, married and with children, with a monthly family income between 1 and 3 minimum wages. Statistical analysis revealed a significant correlation between the perception of stress and burnout, as well as a trend in which higher levels of coping strategies exert a negative correlation on the perception of stress, regardless of the syndrome. **Conclusion:** Screening for stress and burnout syndrome in professionals who

Received on May 31, 2024; 1st Revision on June 12, 2024; 2nd Revision on July 8, 2024; Accepted on July 16, 2024.

provide care to institutionalized elderly people is important to implement preventive actions aimed at this population, and can mitigate physical, emotional, and psychological disorders.

Keywords: Caregivers, Occupational Stress, Burnout, Psychological, Coping Skills.

Resumo

Introdução: Exercer a função de cuidador de pessoas idosas institucionalizadas tem demonstrado suscetibilidade ao estresse, que de forma crônica e adaptativa pode levar à síndrome de Burnout. Nesse contexto, estratégias de *coping* podem atenuar ou retardar o impacto negativo de fatores organizacionais. **Objetivos:** Avaliar a percepção de estresse, síndrome de Burnout e estratégias de enfrentamento em cuidadores formais de pessoas idosas institucionalizadas e verificar como se correlacionam. **Método:** Estudo transversal conduzido com 54 profissionais que desempenham atividades de cuidado a pessoas idosas residentes em três instituições de longa permanência. Foi utilizado um questionário de caracterização sociodemográfica, laboral e de saúde; a Escala de Estresse Percebido; o *Maslach Burnout Inventory – Human Services Survey* (MBI-HSS); e a Escala de *Coping* Ocupacional. A correlação entre os valores obtidos pelos instrumentos foi verificada utilizando o método estatístico LOESS. Todos os preceitos éticos foram seguidos. **Resultados:** Houve predomínio de participantes do sexo feminino, com idade entre 36 e 51 anos, ensino médio concluído, casados(as) e com filho(s), com renda familiar mensal entre 1 e 3 salários-mínimos. A análise estatística revelou uma correlação significativa entre a percepção de estresse e síndrome de Burnout, além de uma tendência em que maiores níveis de estratégias de enfrentamento exercem uma correlação negativa sobre a percepção de estresse, independentemente da síndrome. **Conclusão:** O rastreio do estresse e da síndrome de Burnout em profissionais que exercem cuidado a pessoas idosas institucionalizadas é importante para implementar ações preventivas destinadas a essa população, podendo mitigar distúrbios de natureza física, emocional e psicológica.

Palavras-chave: Cuidadores, Estresse Ocupacional, Esgotamento Psicológico, Capacidades de Enfrentamento.

Introduction

The current scenario in Brazil comprises demographic transformations that lead to the high prevalence of chronic non-communicable diseases, affecting, in turn, health conditions and morbidity in the aging population, making these individuals more vulnerable and subject to physical-functional impairment, cognitive, emotional, social and psychological, causing loss of independence and autonomy, commonly promoting the need for long-term care (Cruz et al., 2017; Jesus et al., 2017; Liberalesso et al., 2017). Thus, concomitantly with the increase in the long-lived population, the demand for health services and equipment, as well as professionals who are able to assist them,

such as caregivers of elderly people, also increases (Santos et al., 2021; Monteiro & Coutinho, 2020).

According to the Brazilian Classification of Occupations (CBO), "caregiver" is the person in charge of care based on goals determined by institutions or those responsible, with the main objective of ensuring the well-being and health of the person being cared for (Brasil, 2010). Projections for Brazil estimate that the number of people being cared for by formal caregivers will be five times greater in 2040, compared to 2010, justifying the importance of studies on this category. By 2030, it is estimated that 21.5 million caregivers aged 25 or over will provide weekly care (Nogueira & Braúna, 2021).

The role of caregiver has been shown to be susceptible to psychological and emotional destabilization, especially for those who perform the role in Long-Term Care Institutions for the Elderly (ILPI), due to several factors, which include long working hours, overload, lack of organizational support, professional demotivation, inadequate remuneration, psychological pressures, double employment, daily exposure to pain and death, as well as limited equipment and high responsibility (Esperidião et al., 2020; Moraes, Yamangami, & Mundim, 2023). This results in health and quality of life problems, such as stress and Burnout syndrome (professional exhaustion).

The perception of stress refers to a complex biopsychological process, experienced when the individual perceives a threat or danger in the environment, but does not have personal and social resources to face the challenges (Freitas, 2021). When chronic and adaptive, stress in the workplace is often described as Burnout syndrome, a condition with characteristics that are associated with exhaustion and exhaustion factors, representing the result of persistent work stressors (Pereira, 2017; Vazquez et al., 2019; Resende et al., 2024). The complexity inherent to care work in LTCF, which involves interactions with fragile people, direct exposure to illnesses and suffering, as well as the lack of professional recognition, contributes to the occurrence of chronic stress/Burnout and can affect the quality of care (Eltaybani et al., 2021).

Work demands and the organizational environment, which are specific sources of stress, can be modulated by coping strategies, which are psychological constructs that involve the effort to manage a certain stressful situation (Ercolani et al., 2020). Such strategies involve the constant adaptation of cognitive and behavioral efforts to deal with specific demands, whether external or internal, that are perceived as exceeding or depleting the person's resources and can mitigate or delay the negative impact of organizational factors on work, the which are indicators of Burnout syndrome (Lazarus & Folkman, 1984; Edú-Valsania et al., 2022). In view of the above, this study aims to evaluate the perception of stress, Burnout syndrome and coping strategies in formal caregivers of LTCL and verify the correlation between these variables, in order to identify the coping mechanisms used in the performance of their functions and collaborate with the prevention of psychological problems in these professionals.

Method

This is a cross-sectional, quantitative and descriptive study, carried out in three ILPIs, in the interior of the State of São Paulo. The municipality in question has five philanthropic ILPIs, to which the study proposal was presented, so that three

of them agreed to act as intermediaries for the research with their collaborators. The number of elderly people assisted among the LTCFs in question varied between 30 and 70 residents and, in general, in addition to the technical/administrative staff, all institutions had a health team composed of nursing, physiotherapy, nutrition, occupational therapy and psychology. Considering the ethical aspects relating to research involving human beings, based on the resolutions of the National Health Council n. 466/12 and n. 251/97, after authorization from the research sites, the present study was submitted and approved by the Ethics and Research Committee on Human Research at the Federal University of São Carlos, under opinion no. 5,627,744 and CAEE: 61128522.5.0000.5504.

All professionals hired by ILPI who directly perform care activities for elderly people, occupying the positions of caregiver, technician or nursing assistant, with a workload of at least 30 hours per week, were invited to participate upon agreement with the Term of Free and Informed Consent (TCLE), characterizing a non-probabilistic sampling. Participants who were on leave or vacation during data collection did not participate in the research.

Based on the proposal presented, due to ILPI restrictions, a hybrid approach was chosen, in which participants could choose to respond to the instruments online (via Google forms) or physically printed. In both cases, the form could be answered at home or in a private work environment, as the copies were collected later. This approach was used to provide greater coverage, participation and safety for participants and researchers. Data collection took place between September and October 2022 and the average response time for participants was approximately 20 minutes.

The following questionnaires and instruments were used:

- **Sociodemographic, work and health characterization questionnaire:** A questionnaire was prepared integrating open and closed questions, such as: sex, age, skin color, marital status, education, whether you have children, whether you consider yourself religious and/or spiritual, regular physical activity practices, continuous use of medications, health conditions (self-report), monthly family income, number of people living in the same house, whether they have another source of income from work, role performed, time working in the profession and institution , shift and number of hours worked.
- **Perceived Stress Scale (EEP-14):** Translated and validated by Luft et al. (2007), the EEP-14 measures the degree of perception of an individual in relation to stressful situations, taking into account three essential elements: unpredictability, lack of control and overload of activities in the respondent's view. The instrument consists of 14 items answered on a Likert scale, ranging from “Never (0)” to “Always (4)”. Questions with a positive meaning have scores added invertedly, while the other questions must be added directly, in which in total it must be considered that: the higher the score, the greater the perceived stress (Yosetake et al., 2018). In this study, values less than or equal to 30 denote the absence of stress symptoms, while scores ranging from 31 to 42 represent a low level, and high levels represent those that reach 43 to 56 points (Benassule et al., 2020; Souza et al., 2023).

- **Maslach Burnout Inventory – Human Services Survey (MBI-HSS):** Translated and validated by Lautert (1995), the MBI-HSS evaluates essential and critical aspects of the occupational experience of individuals who characterize the manifestation of Burnout syndrome, based on three dimensions (subscales) that measure Emotional Exhaustion (EE), Depersonalization (DE) and Personal Accomplishment (PR). The instrument consists of 22 items answered on a Likert scale, ranging from "Never (1)" to "Always (5)". A manifestation of Burnout syndrome is considered to be those individuals who, after adding each dimension, present high scores for the EE (≥27 points) and DE (≥13 points) subscales, added to a low score in PR (≥ 39 points) (Maslach et al., 1996; Pereira, 2017).
- **Occupational Coping Scale (Total score):** Translated and validated by Pinheiro et al. (2003), evaluates coping strategies by which individuals react to stress, determined by personal factors, situational demands and available resources. The scale consists of 29 items grouped into three dimensions: symptom management (9 items); control (11 items); and dodge (9 items). The items are answered on a Likert scale, ranging from "I never do this (1)" to "I always do this (5)". The greatest concentration of responses in one of the three dimensions will be an indication of which coping strategy for occupational stressors is most frequently used by the individual (Umann et al., 2014; Santana, 2016).

All analyzes were conducted using R version 4.0.3 (The R Foundation for Statistical Computing, Vienna, Austria) in R-Studio 1.3.1093 (RStudio Inc., Boston, USA). The information was coded and tabulated in the Microsoft Excel® program, version 2016, by importing the information through the Google forms platform (Google Forms). In this way, a descriptive analysis of the data was carried out, with the absolute and relative frequency, median and interquartile range (first and third quartile), according to the result of the Shapiro-Wilk normality test. Regarding inferential statistics, the correlation between the average values of the MBI-HSS and EEP-14 scores was studied, using the LOESS statistical method, to approximate and smooth data trends to better observe the relationship between the three scales. LOESS is a type of local regression that uses a weighted smoothing function to produce a nonlinear regression model. The LOESS algorithm calculates an estimate for the trend of each data point using its nearest neighboring observations, making it a useful analysis for data with curves, trends, and patterns that are not easily captured by conventional linear regression models.

Results

In the three institutions, all 77 professionals occupying the position of caregiver, technician or nursing assistant were invited to participate. Of these, 23 did not agree to participate or were on leave/vacation during data collection. As a result, the final sample comprised 54 individuals. Information on sociodemographic, work and health characteristics can be seen in Table 1.

Table 1. Sociodemographic, work and health characteristics of the sample. São Carlos/SP, 2022.

Variables (n=54)		n	%	Variables (n=54)		n	%
Institution	A	10	18,5%	**Children**	With children	41	75,9%
	B	36	66,7%		No children	13	24,1%
	C	8	14,8%	**Physical exercise**	Yes	32	59,3%
Sex	Masculine	46	85,2%		No	22	40,7%
	Feminine	8	14,8%	**Religiosity/spirituality**	Enough	5	9,3%
Age	43.0 [36.3, 51.8]*				A lot	11	20,4%
Skin color	White	31	57,4%		Moderately	23	42,6%
	Brown	11	20,4%		A little	11	20,4%
	Black	9	16,7%		Not at all	4	7,4%
	Indigenous	2	3,7%	**Self-report of health conditions**	Low back pain	14	25,9%
	Did not declare	1	1,9%		Hypertension	8	14,8%
Marital status	Married	25	46,3%		Obesity	6	11,1%
	Divorced	11	20,4%		Diabetes Mellitus	6	11,1%
	Lives together	4	7,4%		Depression	3	5,6%
	Single	12	22,2%		Insomnia	10	18,5%
	Widow/widower	2	3,7%	**Monthly family income**	Up to 1 minimum wage	3	5,6%
Scholarity	Elementary school	6	11,1%		1 to 3 minimum wages	33	61,1%
	High school	27	50%		3 to 6 minimum wages	17	31,5%
	Associate degree	18	33,3%		6 to 9 minimum wages	1	1,9%
	Higher education	3	5,6%	**Weekly workload**	40 hours per week or more	51	94,4%
Professional category	Formal caregiver	12	22,2%		30 hours per week or less	3	5,6%
	Nursing assistant	40	74,1%	**Years at the institution**	1 month to 1 year	15	27,7%
	Nursing technician	2	3,7%		1 to 3 years	8	14,8%
Work regime	Exclusively	38	70,4%		3 to 5 years	6	11,1%
	No exclusivity	16	29,6%		5 to 10 years	9	16,7%
Years of experience in long-stay institutions	1 month to 1 year	8	14,8%		10 or more years	16	29,6%
	1 to 3 years	8	14,8%	**Work scale**	12x36**	50	92,5%
	3 to 5 years	9	16,7%		6x1**	4	7,4%
	5 to 10 years	13	24,1%	**Work shift**	Daytime	37	68,5%
	10 or more years	16	29,6%		Nightly	17	31,5%

*Median; **The 12x36 scale is a 12-hour workday followed by 36 hours of rest. The 6x1 schedule is a working day in which the employee works 6 days and has 1 day off per week.

The results of the assessments of coping strategies, stress perception and Burnout syndrome are presented in Table 2.

Table 2. Coping strategies, perception of stress and Burnout syndrome of the sample. São Carlos/SP, 2022.

Variable	Median [IIQ]
MBI-HSS – Total score	60 [54, 64]
Emotional Exhaustion	24 [22, 28]
Depersonalization	11 [9, 13]
Personal Fulfillment	23.5 [21.25, 26]
EEP-14 – Escore total	22 [17, 27]
ECO – Escore total	91.8 [70.25, 114.75]
Control	43 [38.25, 48]
Elude	27.4 [11, 40]
Symptom management	21 [17, 26.75]

IIQ: Interquantile Range; MBI-HSS: Maslach Burnout Inventory – Human Services Survey; EEP-14: Perceived Stress Scale; ECO: Occupational Coping Scale.

The multivariate inferential statistical analysis revealed a positive and significant correlation, of moderate magnitude, between the EEP-14 and the MBI-SS (r=0.28; p=0.03). To verify the influence of coping strategies on the model, the LOESS method was used in order to approximate and smooth data trends. In Figure 1, a trend can be observed in which higher levels of coping strategies exert a negative correlation on the perception of stress, independently of Burnout syndrome.

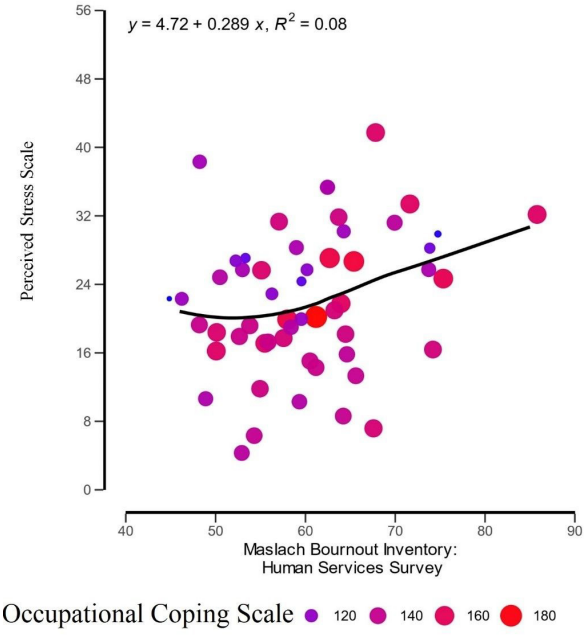

Figure 1. Association between coping strategies, stress perception and Burnout syndrome.

Discussion

The results showed a predominance of female participants, aged between 36 and 51 years old, completed high school, married and with children, with a monthly family income between 1 and 3 minimum wages. The predominance of women aligns with research that consistently demonstrates their history of playing a central role in activities that involve care, both in family and professional contexts (Ziesemer et al., 2020; Aguiar et al., 2022). Other studies conducted with participants who provide care in LTCF also observed a predominance of young adults occupying the role (Kunkle et al., 2020; Gonzáles et al., 2022). Other evidence suggests that the greatest responsibility for carrying out caregiving activities, such as home and family, falls on women, making them prone to experiencing a greater degree of perceived stress, due to the influences of their workload and personal life (Nazari et al., 2023), thus increasing the likelihood of experiencing Burnout syndrome.

Most of the participants indicated only employment at the ILPI, with a workload equivalent to more than 40 hours per week. The volume of work is in line with the literature, which demonstrates higher proportions of caregivers of older people with experience in long-term care environments as a factor that significantly impacts their residents (Eltaybani et al., 2021; Nazari et al., 2023). However, the institutional responsibility for planning an adequate location and workflow stands out, preventing excessive work from causing problems linked to stress and the mental health of its employees and impacting satisfaction and productivity (Salama et al., 2022). A study conducted in Portugal observed that the costs for organizations under such conditions reached 5.3 million euros in 2022 (Freitas et al., 2023).

Shift work/shifts were the most mentioned, as well as reports of low back pain and insomnia. Shift work is more susceptible to disruption of the sleep-wake cycle, leading to poor sleep and/or increased daytime sleepiness, as well as a tendency towards a more depressed mood and low energy during the day (D'Ettorre et al., 2020). Furthermore, most of the time, LTCF residents have a high degree of dependence in activities of daily living, which can influence the presence of low back pain, despite other elements being associated with its development, including psychosocial, biological and occupational factors (Massuda et al., 2017; Watanabe, 2020).

The results on the perception of stress present divergent data with the literature, since this population tends to present higher levels of stress (Jurado et al., 2019). Low levels of perceived stress may have been influenced by the fact that most of the sample had five or more years of experience in LTCF, which promotes greater learning in relation to work circumstances, so that experience can lead to higher scores in coping strategies (Jurado et al., 2019; Sarabia-Cobo & Sarriá, 2021).

Moderate levels of emotional exhaustion and depersonalization were identified, as well as low levels of personal accomplishment, representing signs of moderate Burnout syndrome, with a positive correlation with perceived stress. Regarding coping strategies, the "control" dimension stands out as the most used among the sample, which involves actions and reevaluations of a proactive cognitive nature. This result is confirmed by Huang et al. (2020), who point out care teams as a category that has stronger emotional responses and is more willing to adopt problem-focused coping, that is, the objective is to solve problems to change the situation itself. Corroborating the literature, higher rates

of coping strategies may present an inverse correlation with perceived stress, as they are protective factors for mental health, and such perception may be modulated by the way in which stressful situations are dealt with (Jurado et al., 2019; Sarabia-Cobo & Sarriá, 2021).

The successful use of coping strategies helps individuals manage stressful events, which can moderate the negative effects of work demands and Burnout syndrome. The strategies involve individual resources, such as spirituality, leisure, self-care and positive thinking; social resources, which refer to interpersonal connections, social support and the professional context; and organizational resources, such as the structure of the work environment and configuration of tasks performed. Care professionals, who describe participating in an efficient team, may perceive the workload as less disruptive, as the quality of the team provides them with feelings of security, stability and belonging (Diehl et al., 2021; Cyr et al., 2021).

In a systematic review of coping strategies in the workplace, the authors highlight several preventive actions of institutional responsibility, such as identifying and tracking symptoms of Burnout syndrome, incorporating rest periods and staff training (Nascimento et al., 2021). Other strategies for promoting occupational health include the implementation of therapeutic groups in the workplace, educational actions, development of crisis management skills and institutional support for employees' practice of physical and mental activities, such as discussion groups, meditation practices, relaxation and mindfulness (Pérez-Chacón et al., 2021; Samusevica & Striguna, 2023).

The use of assessment instruments with the possibility of responses on a Likert scale, as used in this study, may be associated with response bias. Despite providing possible trends regarding the correlations found, the research is unable to determine a directionality or causal relationship. Future longitudinal and mixed-approach studies are necessary to confirm and clarify these influences, enabling the identification of predictive factors for the occurrence of stress situations and Burnout syndrome, as well as the contribution of coping strategies on these factors. Furthermore, it is recommended for future analyzes to increase the sample with statistical power in terms of representativeness and generalization of results.

Conclusion

The data reveal low perception of stress and moderate rates of Burnout syndrome among the professionals evaluated, variables that showed a correlation of moderate magnitude. The coping strategies most used by the sample were of the control type, which showed an inverse correlation with the perception of stress, independently of professional burnout. Assessing stress and Burnout syndrome in formal caregivers is important to implement preventive actions aimed at professionals responsible for care in LTCF, which can mitigate physical, emotional and psychological disorders. It is worth highlighting that these actions require involvement from the political, social, organizational and individual spheres. It is important that institutions that play a central role in providing care develop initiatives aimed at promoting the health of their employees, improving the quality of care provided to beneficiaries.

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Adrielli Fernanda de Oliveira e Silva: project conception, investigation, statistical analysis, text writing, manuscript review; Gustavo Carrijo Barbosa and Diana Quirino Monteiro: writing and reviewing the manuscript; Gabriela Martins: text writing, research, manuscript review; Aline Cristina Martins Gratão: project conception, investigation, statistical analysis, manuscript review. All authors approved the final version of the text.

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