

Association between overload and perceived social support among family caregivers of elderly individuals with Alzheimer's disease

Associação entre sobrecarga e apoio social percebido por cuidadores familiares de idosos com doença de Alzheimer

Asociación entre sobrecarga y apoyo social percibido por cuidadores familiares de personas mayores con enfermedad de Alzheimer

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ABSTRACT

Objective: to evaluate the association between overload and perceived social support among family caregivers of elderly individuals with Alzheimer's disease. **Method:** cross-sectional and analytical study with 140 caregivers, conducted between June and November 2021. Data were collected using the sociodemographic and health report of the caregiver-older adult dyad, the Zarit Overload Interview Scale, and the Medical Outcomes Study Social Support Scale. Descriptive analysis of continuous variables and bivariate analysis for the association between the scale dimensions were performed. The research protocol was approved by the ethics committee. **Results:** most participants were between 50 and 59 years old (34.3%), women (86.4%), White (59.3%), had a partner (62.1%), and had completed high school (35.7%). Caregivers exhibited moderate and moderate-to-severe levels of overload. Social support influenced caregivers' perception of overload, particularly in the emotional and informational domains. **Conclusion:** the perception of support is recognized as an essential strategy for coping with the difficulties faced by family caregivers.

Descriptors: Aged; Caregivers; Alzheimer Disease; Sobrecarga; Social Support.

RESUMO

Objetivo: avaliar a associação entre sobrecarga e apoio social percebido por cuidadores familiares de idosos com Alzheimer. **Método:** estudo transversal e analítico, com 140 cuidadores, realizado entre junho e novembro de 2021, utilizando o relatório sociodemográfico e de saúde da díade cuidador-idoso, a Escala Zarit Burden Interview e a Escala de Suporte Social do *Medical Outcomes Study*. Realizada análise descritiva de variáveis contínuas e biviada para associação entre as dimensões da escala. Protocolo de pesquisa aprovado pelo comitê de ética. **Resultados:** prevaleceram indivíduos entre 50 e 59 anos (34,3%), mulheres (86,4%), brancos (59,3%), com companheiros (62,1%) e com ensino médio (35,7%). Os cuidadores apresentaram nível moderado e moderado a severo de sobrecarga. O apoio social influenciou a percepção da sobrecarga do cuidador, principalmente no domínio emocional e informacional. **Conclusão:** a percepção de apoio é reconhecida como uma estratégia essencial para o enfrentamento das dificuldades enfrentadas pelo cuidador familiar.

Descritores: Idoso; Cuidadores; Doença de Alzheimer; Sobrecarga; Apoio Social.

RESUMEN

Objetivo: evaluar la asociación entre la sobrecarga y el apoyo social percibido por cuidadores familiares de personas mayores con Alzheimer. **Método:** estudio transversal y analítico, realizado con 140 cuidadores entre junio y noviembre de 2021, utilizando el informe sociodemográfico y de salud de la díada cuidador-persona mayor, la escala Zarit Burden Interview y la Escala de Apoyo Social del *Medical Outcomes Study*. Se realizó análisis descriptivo de variables continuas y análisis bivariado para la asociación entre las dimensiones de la escala. El protocolo de investigación fue aprobado por el comité de ética. **Resultados:** prevalecieron individuos entre 50 y 59 años (34,3%), mujeres (86,4%), blancos (59,3%), con pareja (62,1%) y con educación secundaria (35,7%). Los cuidadores presentaron un nivel moderado y moderado a severo de sobrecarga. El apoyo social influyó en la percepción de la sobrecarga del cuidador, principalmente en el dominio emocional e informacional. **Conclusión:** la percepción de apoyo es reconocida como una estrategia esencial para afrontar las dificultades asociadas al rol de cuidador familiar.

Descriptores: Anciano; Cuidadores; Enfermedad de Alzheimer; Sobrecarga; Apoyo social.

INTRODUCTION

The proportion of individuals aged 60 years or older has increased significantly in nearly all nations. According to the World Health Organization, estimates in 2021 indicated that two billion people will be 60 years or older by 2050¹. The 2022 National Demographic Census highlighted the significant aging of the Brazilian population, recording 22.1 million

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people aged 65 years or older, corresponding to 10.9% of the total population, which represents a 57.4% increase compared to 2010. Among elderly individuals, the predominance of women stands out, accounting for approximately 56% of this group, alongside a rise in the group of long-lived individuals aged 80 years or older, which now represents 2.2% of the population².

This demographic scenario imposes important challenges for public health policies, since aging is directly associated with an increase in the prevalence of chronic and neurodegenerative diseases, such as dementias, whose incidence grows exponentially in the oldest age groups².

Dementia is one of the main causes of disability and dependency among elderly individuals and the seventh leading cause of death among all diseases. The diagnosis of Alzheimer's, in particular, can be distressing for caregivers, families, and society as a whole, as well as for the older individual. Alzheimer's Disease (AD) is considered the most common type of dementia, accounting for 60% to 80% of cases of cognitive decline. The main risk factor for AD is age, and its incidence doubles every 5 years after the age of 65^{1 3}.

Population aging underscores the relevance of Law No. 14,878/2024, which establishes the National Policy for Comprehensive Care for People with Alzheimer's Disease and Other Dementias, setting guidelines for comprehensive care and support for family caregivers, highlighting the need for studies on caregiver overload and social support in this context^{4,5}.

The progression of Alzheimer's Disease (AD) is characterized by slow decline, resulting in the gradual loss of recent memory and autonomy, thereby increasing the demands for care and monitoring provided by others to the dependent older person. Caring for a relative with Alzheimer's is a responsibility associated with physical and emotional challenges for the caregiver. This situation is worsened by the patient's deterioration and the specialized demands involved, resulting in negative emotional and social outcomes for the caregiver, such as overload, anxiety, worry, stress, grief, social isolation, and difficulties in accepting the diagnosis. In addition, caregivers also express concern about the future, as they often do not know what to expect, nor for how long they will be able to provide emotional and financial support for themselves and for the well-being of their families⁶.

For some family caregivers, providing care for a close relative can be a rewarding experience, especially when they perceive adequate social support. This positive perception is favored by access to appropriate medical support and formal care assistance, and it may also provide an opportunity to strengthen family bonds and maintain pre-existing friendships — aspects that can mitigate the negative effects of caregiving and influence the caregiver's perceived overload⁷.

Therefore, social support is a set of practices, services, and strategies aimed at promoting social integration and inclusion, as well as preventing situations of exclusion and discrimination. These services seek to promote the well-being and holistic development of individuals, especially those in vulnerable situations. Their providers include social initiatives, government agencies, NGOs, public entities, and others. These practices and services include educational programs, vocational training, healthcare, counseling, child protection services, conflict-resolution actions, among others⁸.

The Federal Constitution of 1988 was a significant milestone in Brazilian social protection, ensuring rights related to Social Security. The Elderly Statute, enacted in 2003, was implemented to guarantee elderly individuals the fundamental rights inherent to the human person. The family plays a key role in protecting older individuals, but when it is unable to fulfill this function, society and the State must ensure healthy and dignified conditions for aging. In this regard, the National Social Assistance Policy was created, aiming to strengthen bonds between individuals and families, as well as to prevent situations of personal and social risk⁹.

Social support is classified as professional or formal help, which includes seeking assistance or counseling from health and social service professionals, such as family physicians, general practitioners or specialists, psychologists, lawyers, and other health professionals. On the other hand, informal or non-professional support refers to seeking help at the community level, including family members, close acquaintances, and especially other caregivers of people with dementia. Studies show that social support is an important mediator of stress, exerting a buffering effect by preventing and even inhibiting the consequences of stress in family caregivers^{9,10}.

In this study, an attempt was made to measure the perceived support among caregivers of elderly individuals with AD, with emphasis on the informal dimension of social support embedded in interpersonal relationships within the context of family caregiving. It is believed that the essential aspect is the individual's perception of this support. The perception of social support is considered fundamental for caregivers of elderly individuals with AD, as it may help relieve stress, offer emotional support, and provide necessary information for planning tasks and care for the elderly.

Understanding the influence of different dimensions of social support dimensions on the overload experienced by family caregivers of elderly individuals with Alzheimer's Disease is highly relevant, as it may serve as a strategy to address the barriers existing within this context. Previous studies highlight the negative effects of caregiving, suggesting that caregivers with a high perception of social support experience lower levels of overload¹⁰.

Furthermore, this study aligns with the United Nations Sustainable Development Goals (SDGs), in several aspects: SDG 3 – Good Health and Well-Being, by demonstrating the impact of social support on reducing the overload of family caregivers of elderly individuals with Alzheimer's disease; and SDG 5 – Gender Equality, considering that caregiving responsibilities fall predominantly on women, thus reinforcing structural inequalities. At a national level, it converges with the National Agenda of Priorities in Health Research (ANPPS), in the axes "Noncommunicable Chronic Diseases," which includes Alzheimer's disease, and "Health Promotion, Care and Management," with an emphasis on the health of the elderly individual and the caregiver. The relevance of this study lies in highlighting the need for strategies and public policies that enhance social support, reduce inequalities, and promote the quality of life of both caregivers and elderly individuals^{11,12}.

Thus, the objective of this study was to assess the association between perceived social support and the overload among family caregivers of elderly individuals with Alzheimer's Disease. This investigation may be useful to support professionals and institutions that provide support services to caregivers.

METHOD

This is a cross-sectional, analytical, and quantitative study conducted in a large city in the state of Paraná, between June and November 2021. The study included 140 family caregivers of elderly individuals diagnosed with Alzheimer's Disease, who had been providing care for more than six months, were literate, lived in the urban area, and were over 18 years of age. Caregivers of elderly individuals with other types of dementia were excluded.

According to the 2022 National Demographic Census conducted by the Brazilian Institute of Geography and Statistics (IBGE), the city had a resident population of 101,948 individuals aged 60 years or older, representing 18.3% of the total population. The aging index (AI) recorded was 105.09, showing a significant increase in the population aging process compared to the 2010 Census results². In this location, the Municipal Secretariat for the Elderly (SMI) was created in 2000, being the first in the country to develop actions aimed at elderly individuals so as to guarantee their rights and encourage their autonomy, integration, and participation¹³. The sample was non-probabilistic and obtained by convenience from 251 eligible caregivers.

A structured questionnaire was administered and completed by the caregiver, containing variables for caregiver characterization (sex, age, educational level, race, marital status, degree of kinship, comorbidity, self-rated health status, practice of physical activity, leisure activity, income, professional situation, and cohabitation) and of the elderly individual under care (caregiving responsibility, time providing care, type of care provided, care for another person, presence of another caregiver, receipt of financial support for caregiving, assessment of the support network received), categorized according to the groups of interest.

To assess perceived social support, the Medical Outcomes Study Social Support Scale (MOS-SS), under this designation in English, was used. This scale was developed in a longitudinal study with individuals with chronic diseases, aiming to evaluate the main dimensions of social support¹⁴. The scale comprises four dimensions of perceived social support: material support, affective support, emotional/informational support, and positive social interaction. These categories are described in 19 concise statements in which the respondent must indicate how often they believe they have a given type of support available to them. Responses are classified on a five-point Likert-type scale. For all items, five response options were presented: (1) "never"; (2) "rarely"; (3) "sometimes"; (4) "almost always"; and (5) "always". At the end, the results are scored by dimension, resulting in a total score ranging from 0 to 100 points¹⁴.

The Zarit Overload Interview (ZBI) scale, used to measure the level of caregiver overload, was developed in the United States by Zarit, Reever and Bach-Peterson in 1980, originally with 29 items, and later reduced to 22 by researchers Zarit, Orr and Zarit in 1985¹⁵. It was adapted for use in Brazil¹⁶. The instrument consists of 22 questions, with response options classified on a 5-point Likert scale: never (0 points), rarely (1 point), sometimes (2 points), quite frequently (3 points), or always (4 points). The total score may range from 0 to 88 points. Overload assessment is organized into four levels: absent or mild, moderate, moderate to severe, and severe¹⁷.

The data collection instrument was handed to the caregiver, who could choose whether to complete it at the outpatient clinic or at home. In both settings, the researcher offered assistance in person, by telephone, or through

online communication. If the instrument was completed at home, the date and time were scheduled by telephone for its pickup. If any item was incomplete, efforts were made to collect this information via telephone contact.

Data were tabulated using Microsoft Excel®, version 2019, and analyzed using the Statistical Package for the Social Sciences – IBM SPSS®, version 19.0. Initially, descriptive statistical analysis of the variables was performed, with absolute and relative frequencies distributions for categorical variables, and calculation of means and standard deviations for continuous variables.

Subsequently, a bivariate analysis was conducted to verify the association between the dimensions of the social support scale and caregiver overload. To this end, correlation tests (Pearson or Spearman coefficients, according to data distribution) were applied between continuous variables. Where appropriate, associations between categorical variables were analyzed using Pearson's Chi-square test or, in situations with low expected frequency, Fisher's exact test. A statistical significance level of 5% ($p < 0.05$) was adopted for all analyses.

The study was conducted to ensure compliance with the provisions of Resolution No. 466/2012 concerning research involving human subjects¹⁸. The research protocol was approved by the Research Ethics Committee of the proposing institution, and all participants signed the Free and Informed Consent Form.

RESULTS

In this study, 140 family caregivers of elderly individuals with Alzheimer's disease were evaluated. The convenience sample corresponded to 55.8% of the 251 initially eligible participants. Losses occurred due to missing responses in the scales ($n = 30$; 12.0%), non-attendance to appointments and lack of response to telephone contacts ($n = 61$; 24.3%). There was an 8.0% refusal rate to participate in the study ($n = 20$). The characterization of elderly individuals with AD is presented in Table 1.

Table 1: Sociodemographic characterization of elderly individuals with Alzheimer's Disease ($n=140$). Londrina, PR, Brasil, 2021 ($N = 140$).

Variables	n	f(%)
Age	65-69	14 10,0
	70-74	22 15,7
	75-79	24 17,1
	80-84	40 28,6
	85-89	24 17,1
	90-94	12 8,6
	95+	4 2,9
Sex	Female	103 73,6
	Male	37 26,4
Race	White	94 67,1
	Mixed-race	26 18,6
	Black	15 10,7
	Yellow	5 3,6
Marital Status	Without partner	73 52,2
	With partner	67 47,8
Education	Incomplete Elementary Sch.	61 43,6
	No formal Education	35 25,0
	Complete Elementary Sch.	18 12,9
	Complete High School	14 10,0
	Incomplete High School	6 4,3
	Complete Higher Education	3 2,1
	Postgraduate Education	2 1,4
Family Income	Incomplete Higher Edu.	1 0,7
	1 Minimum Wage	95 67,9
	2 – 3 Minimum Wages	35 25,0
	4 Minimum Wages	6 4,3
	5 or (+)Minimum Wages	4 2,9

It is observed that 34.3% were in the age group between 50 and 59 years ($n = 48$), 86.4% were women ($n = 121$), 59.3% self-declared as white ($n = 83$), 62.1% had a partner ($n = 87$), 35.7% had completed high school ($n = 50$), and 19.3% had completed higher education ($n = 27$). Regarding family income, 53.6% reported an income between two and three national minimum wages ($n = 75$), and 90% reported not receiving any financial support to perform their caregiving role ($n = 126$). In

addition, 70.0% did not engage in regular physical activity ($n = 98$), 57.1% reported having some type of comorbidity ($n = 80$), and 52.1% rated their health as good ($n = 73$). Regarding the elderly individuals with AD, 28.6% were in the age group between 80 and 84 years ($n = 40$), 73.6% were women ($n = 103$), and 52.2% did not have a partner ($n = 73$).

Table 2: Characterization of Conditions, Care Responsibility, and Support Network for Activities Performed by Family Caregivers of Elderly Individuals with Alzheimer's Disease ($n=140$). Londrina, PR, Brasil, 2021.

Support Network		n	f(%)
Uses community resources	Yes	6	4,3
	No	134	95,7
Care Responsibility	Full-time (24 hours))	100	71,4
	Part-time	26	18,6
	Occasional	14	10,0
Takes care of Another person	Yes	50	35,7
	No	90	64,3
Perception of Support Network	Excellent	16	11,4
	Good	48	34,3
	Minimal Support	55	39,3
	Poor	21	15,0
Type of care provided	Feeding	74	52,9
	Hygiene	64	45,7
	Medication	97	69,3
	Companionship	118	84,3

Approximately 71.4% of family members responsible for caring for an elderly individual with Alzheimer's disease reported providing care on a full-time basis, that is, 24 hours a day. In addition, 35.7% of the respondents stated they had another caregiving responsibility, while 95.7% reported not being aware of any type of support offered by the community. The results for the analysis of the burden level in family caregivers of elderly individuals with Alzheimer's Disease are presented in Table 3.

Table 3: Analysis of the association between the dimensions of perceived social support and caregiver overload among family caregivers of elderly individuals with Alzheimer's disease ($n = 140$). Londrina, Paraná, Brazil, 2021.

Social Support Dimensions		Level of Overload			
		Absent or Small	Moderate	Moderate to Severe	Severe
Material	High N (%)	23 (69,7)	28 (50,0)	17 (41,5)	2 (20,0)
	Low N(%)	10 (30,3)	28 (50,0)	24 (58,5)	8 (80,0)
P = 0,019*					
Affective	High N (%)	29 (87,9)	40 (71,4)	29 (70,7)	4 (40,0)
	Low N(%)	4 (12,1)	16 (28,6)	12 (29,3)	6 (60,0)
P = 0,025*					
Emotional / Informational	High N (%)	27 (81,8)	26 (46,4)	15 (46,6)	4 (40,0)
	Low N(%)	6 (18,2)	30 (53,6)	26 (63,4)	6 (60,0)
P = 0,001*					
Positive Social Interaction	High N (%)	24 (72,7)	32 (57,1)	17 (41,5)	4 (40,0)
	Low N(%)	9 (27,3)	24 (42,9)	24 (58,5)	6 (60,0)
P = 0,41					

Source: the authors. * P-value < 0,050.

The findings indicate that 40.0% of family caregivers were classified as having a moderate level of overload, while 29.3% were classified as having moderate-to-severe overload.

The perception of social support was assessed according to the dimensions of the MOS Scale, revealing a high perception of affective support among 102 caregivers (72.9%). This dimension refers to feelings of affection, being loved, and receiving expressions of care. Regarding material support, half of the caregivers reported low perception, whereas the other half perceived themselves as having high support. Finally, the emotional/informational aspect was the dimension with the lowest perception levels, representing the ability to rely on others to listen, discuss personal problems, help during crises, and offer advice.

The social support dimension most strongly associated with caregiver overload was emotional/informational support, followed by material support and then affective support. Higher perceived support levels in these dimensions were associated with absent or low overload, whereas lower perceived levels were linked to severe overload among family caregivers.

DISCUSSION

The results of this study show that the social support perceived by family caregivers of elderly individuals with Alzheimer's disease is inversely associated with caregiver overload, indicating that higher levels of support are related to lower caregiver overload. Among the dimensions of social support, the emotional and informational aspects stood out as essential for dealing with the daily challenges of caregiving, while material support contributed particularly in situations related to the caregiver's own health. It was further observed that caregivers with severe overload reported a reduced perception of support, suggesting that high levels of stress may hinder the seeking and effective use of available resources. These findings corroborate evidence that social support plays a mediating role in reducing overload and improving caregivers' quality of life.¹⁹

The analyses conducted in this study are consistent with previous evidence indicating perceived social support as a protective factor against overload in family caregivers of elderly individuals with dementia. Thus, social support emerges as an effective strategy to cope with the challenges of caregiving, strengthening the caregiver and mitigating the negative impacts of this role, thereby contributing to improvements in well-being, quality of life, and the health of family caregivers.^{6,10,20} Recent systematic reviews and meta-analyses confirm that higher levels of social support reduce depressive symptoms, anxiety, and stress among caregivers, reinforcing its protective effect in coping with the demands of caregiving.^{21–23} Emotional support, by strengthening affective bonds and resilience, and informational support, by expanding knowledge and management skills, are particularly relevant in the context of Alzheimer's disease, in which behavioral and cognitive symptoms impose additional challenges.

A review study conducted by Queluz et al. (2020) highlighted the main needs of family caregivers of people with dementia, particularly those related to emotional health. This gap directly affects caregivers' self-care, potentially intensifying feelings of exhaustion and worsening their quality of life.²⁴ Other studies point to barriers in seeking support, such as pre-existing overload, the moral responsibility attributed to caregiving, and negative experiences with health services.²⁵ These elements help explain why, even in the presence of potential support networks, many caregivers remain isolated or underutilize available resources.

The caregiver profile identified in this study—predominantly middle-aged women, with average education level and high levels of overload—follows patterns already described in national and international literature, indicating that caregiving remains strongly anchored in gender relations and family bonds, with limited participation from formal support networks.^{26,27} This overload, often invisible within healthcare systems, compromises caregivers' physical and mental health and negatively impacts the quality of care provided.²⁸ The results of the present study, which revealed moderate to severe overload levels and low perception of social support among participants, reinforce the need to strengthen formal and informal support networks as a strategy to reduce overload and enhance the caregiver's role in the home environment.²¹

Given this context, it becomes imperative to expand and enhance existing support networks. In Brazil, although the National Care Policy (Law No. 15.069/2024) represents an advancement by recognizing care as a right and establishing shared responsibility among the State, families, and society, a disconnect between legal guidelines and daily reality is observed. The absence of structured services, such as training programs, psychosocial support, and respite resources, limits the effectiveness of current policies, perpetuating the invisibility of caregiving work.⁵

Intervention studies demonstrate that integrated support strategies, such as case management, psychoeducational programs, counseling, support groups, and respite services, are effective in reducing caregiver overload, depression, and anxiety, as well as in enhancing caregiver knowledge and skills.^{22,29} Recent meta-analyses reinforce that interventions combining emotional and informational support have more sustained impact over time, suggesting that hybrid models are more promising than isolated interventions.^{21,22} In this scenario, the strategic role of nursing in supporting family caregivers of elderly individuals with Alzheimer's disease stands out. Nurses can provide qualified guidance on diagnosis, disease progression, and management, train caregivers in behavioral management techniques, promote self-care, and indicate available support resources within the healthcare and social assistance networks. Furthermore, they can lead support groups, develop educational interventions, and participate in psychoeducational programs, which have proven effective in reducing stress and enhancing caregivers' perception of social support.³⁰

Beyond clinical practice, nursing has a fundamental responsibility in advocating for rights and promoting the social and political visibility of caregivers' work through participation in the processes of formulating, implementing, and

monitoring public policies. This expanded role broadens the reach of care actions, strengthens formal and informal support networks, and contributes to caregivers being recognized as rights-bearing individuals who are essential to maintaining the quality of life of elderly individuals with dementia.

Therefore, the results of this study not only confirm the existing literature by demonstrating the inverse association between social support and caregiver overload but also highlight gaps in the implementation of policies and support practices for caregivers in Brazil. The implementation of intersectoral strategies, involving health services, social assistance, and the community, is urgently needed to ensure dignity and quality of life for both caregivers and care recipients.

Study limitations

The present study had as a limitation the use of a convenience or intentional sampling approach, while yielding a substantial sample size, may limit the generalizability of the findings, as the participants may not be fully representative of the broader population. As a cross-sectional study, it was not possible to establish a causal inference between caregiver overload and social support. Furthermore, the Medical Outcomes Study Social Support Scale (MOS-SS) assesses the *perception* of the support received, rather than its *effectiveness*. Nevertheless, this research constitutes a relevant contribution due to the scope of its topic and its focus on a homogeneous population of elderly individuals diagnosed with Alzheimer's disease, all users of the Brazilian Unified Health System (SUS) in a city that stands at the forefront of public policies for the health and well-being of elderly individuals.

CONCLUSION

This study confirmed an inverse association between perceived social support and caregiver overload among family caregivers of elderly individuals with Alzheimer's disease. The results showed that higher levels of support, particularly within the emotional and informational dimensions, are associated with a significant reduction in caregiver overload. In addition, it was identified that caregivers who reported lower levels of perceived support experienced higher overload, revealing gaps in the effective implementation of available support resources.

The findings underscore the critical need for systematic guidance strategies and proactive intervention from nursing teams, as well as a necessary adaptation of health services to adequately address the caregivers' demands. Therefore, the study demonstrates that expanding and strengthening both formal and informal support networks is a crucial pathway for reducing caregiver overload and promoting the well-being of the caregiver-elderly individual dyad.

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Conceptualization, C.H.O. and M.S.G.D.; methodology, C.H.O. and M.S.G.D.; software, C.H.O. y M.S.G.D.; validación, C.H.O. and M.S.G.D.; formal analysis, C.H.O. and M.S.G.D.; investigation, C.H.O. and M.S.G.D.; resources, C.H.O. and M.S.G.D.; data curation, C.H.O. and M.S.G.D.; manuscript writing, C.H.O., M.S.G.D., L.B.F.R., J.A.V.S., M.C.F.L.H., R.C.B.R., M.M.T. and A.M.S.; review and editing, C.H.O., M.S.G.D., L.B.F.R., J.A.V.S., M.C.F.L.H., R.C.B.R., M.M.T. and A.M.S.; visualization, C.H.O., M.S.G.D., L.B.F.R., J.A.V.S., M.C.F.L.H., R.C.B.R., M.M.T. and A.M.S.; supervision, M.S.G.D.; project administration, C.H.O. and M.S.G.D.; financing acquisition, C.H.O. and M.S.G.D. All authors read and agreed with the published version of the manuscript.

Use of artificial intelligence tools

Authors declare that no artificial intelligence tools were used in the composition of the manuscript “Association between overload and perceived social support among family caregivers of elderly individuals with Alzheimer's disease”.