

# Depressive symptoms of the elderly people and caregiver's burden in home care

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## Depressive symptoms of elderly people and caregiver's burden in Home Care

**Objective.** To characterize the elderly population and their caregivers and to verify the association of depressive symptoms of the elderly and the caregiver's burden with the variables of interest. **Methods.** A cross-sectional study with 80 elderly people and 78 caregivers in a Primary Health Service in southern Brazil. Retrospective collection conducted in a structured

database based on the multidimensional evaluation tool applied to home care for the elderly participants and their caregivers. **Results.** Most elderly participants were women (71.3%), with an average age of 82.1 years and 52.6% reported sadness or discouragement. Systemic arterial hypertension was the most frequent morbidity (68.8%). Most caregivers were women (85.7%), daughters of the elderly person (53.2%), mean age 57.8 years and 38.7% reported feeling the burden. The presence of depressive symptoms in the elderly

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was associated with Parkinson's disease ( $p=0.016$ ) and to have a male caregiver ( $p=0.006$ ). Caregiver's burden was associated with daily life activities such as bathing ( $p=0.021$ ). **Conclusion.** There was evidence of differences in caregiver's gender in the presence of depressive symptoms and differences in the assistance in daily life activities for the caregiver's burden.

**Descriptors:** home visit; caregivers; aged; nursing; primary health care; depression; cross-sectional studies; retrospective studies.

### Síntomas depresivos en los ancianos y cuidadores de sobrecarga en la atención domiciliar

**Objetivo.** Caracterizar a los ancianos y a sus cuidadores, verificando la asociación de los síntomas depresivos del anciano y la sobrecarga del cuidador con las variables de interés. **Métodos.** Estudio transversal con 80 ancianos y 78 cuidadores en una Unidad de Atención Primaria en el sur de Brasil. La recolección retrospectiva de la información se hizo utilizando una base de datos estructurada realizada a partir de un instrumento de evaluación multidimensional aplicado en la atención domiciliar a los ancianos y sus cuidadores. **Resultados.** La mayoría de los ancianos eran mujeres (71.3%), con edad media de 82.1 años. 52.6% informó tristeza o abatimiento. La hipertensión fue la morbilidad más frecuente (68.8%). En cuanto a los cuidadores, la mayoría eran mujeres (85.7%), hijas de los ancianos (53.2%) con una edad media de 57.8 años. El 38.7% informó que se sentía con sobrecarga. La presencia de síntomas depresivos en los ancianos se asociaron con la enfermedad de Parkinson ( $p=0.016$ ) y que tiene cuidador de sexo masculino ( $p=0.006$ ). La sobrecarga del cuidador se relacionó con la ayuda en las actividades de la vida diaria, como el baño ( $p=0.021$ ). **Conclusión.** Fue evidente la diferencia en cuanto al sexo del cuidador y la presencia de síntomas

depresivos y en la asistencia en las actividades de la vida diaria del anciano para la sobrecarga del cuidador.

**Descritores:** visita domiciliar; cuidadores; anciano; enfermería; atención primaria de salud; depresión; estudios transversales; estudios retrospectivos.

### Sintomas depressivos de idosos e sobrecarga de cuidadores em atenção domiciliar

**Objetivo.** Caracterizar os idosos e seus cuidadores e verificar a associação de sintomas depressivos do idoso e de sobrecarga do cuidador com as variáveis de interesse. **Métodos.** Estudo transversal com 80 idosos e 78 cuidadores em unidade de atenção primária do Sul do Brasil. Coleta retrospectiva realizada em banco de dados estruturado a partir do instrumento de avaliação multidimensional aplicado na atenção domiciliar aos idosos e seus cuidadores. **Resultados.** A maioria dos idosos eram mulheres (71.3%), com média de idade de 82.1 anos e 52.6% relatavam tristeza ou desânimo. Hipertensão arterial sistêmica foi a morbidade mais frequente (68.8%). Quanto aos cuidadores, a maioria eram mulheres (85.7%), filhas dos idosos (53.2%), com média de idade de 57.8 anos e 38.7% relataram sentir-se sobrecarregados. A presença de sintomas depressivos no idoso foi associada a Doença de Parkinson ( $p=0.016$ ) e a ter cuidador do sexo masculino ( $p=0.006$ ). A sobrecarga do cuidador foi associada com o auxílio a atividades de vida diária como banho ( $p=0.021$ ). **Conclusão.** Evidenciou-se diferenças quanto ao sexo do cuidador na presença de sintomas depressivos e diferenças no auxílio nas atividades de vida diária do idoso para a sobrecarga do cuidador.

**Descritores:** visita domiciliar; cuidadores; idoso; enfermagem; atenção primária à saúde; depressão; estudos transversais; estudos retrospectivos.

## Introduction

The demand for improvements in the quality of care and the population aging has strengthened the implementation of differentiated health care practices. Ways of home care have been implemented, such as the Home Health Care Services (SAD) and the Family Health Strategy

(ESF).<sup>(1)</sup> Studies conducted in the international context show that home care (HC) is aimed to the elderly population, with the provision of governmental resources and different forms of organization. A systematic review of 74 articles from 15 European countries identified that home care is essentially provided to the elderly people, through

HC agencies and generally with public funding.<sup>(2)</sup> Brazilian literature is still restricted to the topic.<sup>(3)</sup>

In the national context, HC is proposed as a care modality integrated into the health care network and characterized by a set of health promotion, prevention, and treatment of diseases, palliation and rehabilitation actions carried out at home to guarantee the continuity of care. Also, it has a role to play in the management of the care of individuals and their families, articulating the care to increase the resolution and completeness of actions.<sup>(4)</sup> Recently, the HC was promoted by the publication of Ordinance 2527 of October 27<sup>th</sup>, 2011 launching the “Better at Home” program organizing the home care offered by the municipalities in the Unified Health System (SUS) through three modalities: HC1, HC2, and HC3. It provides home care by the ESF units (HC1) and, in a complementary way, by a SAD for cases of greater complexity (HC2 and HC3), as well as defining the responsibilities of the health teams within the various modalities. It reinforces the role of Basic Care/Primary Health Care (BC/PHC) as a caregiver and territorial action. HC1 should be accompanied by patients with compensated health problems with difficulty or impossibility of getting to the health unit who need a lower frequency of care.<sup>(4)</sup>

In the city of Porto Alegre/RS, there are seven HC services enabled in the Better at Home Program. Of them, only two are in operation, offering home care to the North and South of the City. Although the program is not implemented in all the territory of the municipality, the home monitoring provided by BC/PHC is performed by a large part of the services. The home care of the BC/PHC unit in which the study was carried out had about 90 linked users aged 12-98 years old at the beginning of 2014. Of them, approximately 90% were elderly people. Among the activities carried out by the unit, there is the multidimensional evaluation of the elderly patients and the assessment of the caregivers according to the instruments recommended by the Ministry of Health in the Basic Care Notebooks: aging and health of the elderly person.<sup>(5)</sup> Important aspects to be

evaluated by professionals who work in BC/PHC and monitor the elderly and their caregivers at home, refers to the socioeconomic characteristics of the family, the functional capacity of the elderly, the presence of depressive symptoms in the elderly and the burden on caregivers.

The elderly people often have depressive symptoms associated with greater functional dependence, poor perception of health, falls in the last year, and pain on most days.<sup>(6)</sup> There is also need to support caregivers, who are not always able to support the elderly people in their daily lives and who are often overwhelmed by the care that needs to be performed in their daily lives.<sup>(7)</sup> Studies on factors associated with the presence of depression symptoms among elderly population and caregivers’ burden become relevant due to the recent proposal to rearrange HC by supporting planning at the local level and by subsidizing the planning of these actions in other realities. The nursing team plays a fundamental role in this scenario when planning care actions, guiding and educating patients and their families in the daily routine of home visits. To this end, the elderly people and their family should be offered a humanized assistance to promote health, identifying and evaluating their needs to provide better health conditions and to plan care actions, especially regarding the depressive symptoms in the elderly and overload of their caregivers. Therefore, the present research aims to characterize the elderly people and their caregivers, besides verifying the association of depressive symptoms of the elderly and the caregiver’s burden with the variables of interest.

## Methods

This study is a cross-sectional research carried out in the Home Care Program (HCP) of the Santa Cecília Basic Health Unit of the Hospital de Clínicas of Porto Alegre (UBS/HCPA). UBS/HCPA is an assisting teaching unit of the Federal University of Rio Grande do Sul (UFRGS). The territory is divided into four health teams with approximately 28,000 people registered. Among

the registered, about 5,000 are elderly people. UBS/HCPA is part of the Center District, with the highest proportion of elderly in Porto Alegre. According to the 2010 Demographic Census, the population of the area was approximately 40,000 people, and 21.64% of them were 60 years old or older.<sup>(8)</sup> The sample consisted of all the elderly population (80) who were part of the PAD in 2014 and 78 caregivers, 62 being family caregivers and 16 contractors (2 elderly did not have caregivers). The primary caregiver was defined as the one who was called the main caregiver for the elderly. Considering a level of significance of 5%, the power of 80% and a minimum prevalence ratio of two of the independent factors, at least 56 individuals would be required.

The data collection for this study was retrospective (November 2013 to June 2014), using a database developed for university extension project. The data were obtained by the multidimensional evaluation instrument of the elderly and their caregivers.

The instrument used was composed of socio-demographic and economic data of the elderly: gender, age, education, total household income, marital status, morbidities, hospitalization and falls in the last year, the presence of family and/or contracted primary caregiver. There was also a presence of sadness or discouragement frequently. In the affirmative answers, the Abbreviated Geriatric Depression Scale (EDGa), composed of 15 questions with dichotomous answers, was applied. The following cut-off points were observed to evaluate the results obtained through EDGa, a score between 0 and five is considered normal, between 6 and 10 indicates mild depression and between 11 and 15 means severe depression.

The following instruments were used to evaluate functional capacity: the Independence scale in the Basic Activities of Daily Living and the Evaluation of the Instrumental Activities of Daily Life. According to the Ministry of Health (MH) material, the Katz scale assesses the independence of the elderly in the performance of six functions, such as eating, bathing, dressing, going to the toilet, transference, and continence. Its classification consists of

an index with identification by seven letters: A (independent for all activities); B (independent for all activities except one); C (Independent for all activities except bath and more an additional); D (Independent for all activities except bathing, dressing up and an additional one); E (Independent for all activities except bathing, dressing up, going to the bathroom and an additional one); F (Independent for all activities except bathing, dressing, going to the toilet, transfer and one more additional); G (Dependent on all activities); And Other (dependent on at least two functions, but not classified in C, D, E and F). The Lawton scale, according to the same guide of the MH, classifies the elderly in the performance of nine functions: using the telephone, going to distant places, shopping, preparing meals, tidying up the house, doing household chores, washing and ironing, taking medicine, taking care of finances. For each question, three means independence; 2 means partial dependence or capacity with help and one dependent. The maximum score is 27 points, and the lower the score, the more dependent the individual.<sup>(5)</sup> The author of the original scale and the MH material do not propose a cut-off point.

For the main caregivers, the following data were collected: age, gender, relationship with the elderly, type of support received in the demands of the elderly (instrumental, emotional or financial). The instrumental support referred to the concrete help to the material necessities and aid for the accomplishment of activities in the self-care, eliminations, and transference of the elderly. On the other hand, emotional support is the actions of love and affection shown to both the caregiver and the elderly.<sup>(9)</sup> Financial support was considered an aid in the payment of expenses related to the elderly. Also, the care activities performed by the caregivers for the elderly (purchases, cleaning of the house, finances, supervision for safety, preparation of meals, care with medication, bath, among others). In the presence of the main family caregivers, they were questioned if they felt overwhelmed by the care given to the elderly people. If so, the Zarit Caregiver's Overload Scale was applied, classifying the level of overload, with a variation from 0 to 88. It was translated and

validated for use in Brazil in a study with informal caregivers of people with mental illness, with Cronbach's alpha coefficient of 0.87.<sup>(5,10)</sup> The scale does not have a cutoff point, and the score is directly related to the burden.

The variables of interest for this study were transferred from the service database to the SPSS program (21.0). In the descriptive analysis, we calculated the means and standard deviations or the median and interquartile range for the quantitative variables. Qualitative variables were expressed by absolute and relative frequencies, a value of  $p < 0.20$  was considered in the bivariate analysis to compose the multivariate analysis evaluating whether independent factors of the elderly (age, gender, marital status, education, total household income, morbidity, hospitalizations and falls in the last year, functional capacity and presenting family and/or contracted primary caregiver) and caregivers (age, gender, kinship, support received and activities performed) would be associated with depressive symptoms in the elderly or caregiver's burden. To verify depressive symptoms, the answers obtained with the elderly person were used to feel sad or discouraged (yes or no) and to verify the overload was used the answer (yes or no) to the question to the caregiver about feeling overwhelmed. Regarding functional capacity, Katz scores were grouped into: A (independent); B, C, D and others (mild dependence); E and F (moderate dependence) and G (severe dependence). Values with  $p < 0.05$  were considered statistically significant. The researchers signed the Term of Commitment for Data Use. The project was approved by the HCPA Research Ethics Committee (150275).

## Results

It was verified that of a total of 80 elderly people, most of them were women (71.3%), with an average age of 82.1 and complete elementary education (33.8%). The income presented a median of 3.5 minimum wages, ranging from 2 to 5. Of the 80 elderly people, 78 (97.5%) had primary caregivers, and 61.5% had no contracted caregivers. As for the morbidities reported by the elderly or their caregivers, the most frequent (68.8%), stroke (37.5%), followed by type 2 diabetes mellitus (23.8%) and dementia (18.8%). In the last year, 46.2% were hospitalized and 48.7% had an episode of fall at home. Regarding functional capacity, it was found that 26.3% were dependent for all ABVDs. For the AIVDs, the mean score was  $13.9 (\pm 5.01)$ . As for depressive symptoms, 12 elderly people reported being sad or discouraged frequently. For these, EDGa was applied, and 52.6% presented mild depression. The data are shown in Table 1.

The mean age of the caregivers was  $57.75 \pm 13.7$  years old, and most of them were women (85.7%). Of the primary caregivers, 62 were related to the elderly (53.2% were children). Among the activities performed by the caregiver, shopping (89.6%), house cleaning (88.3%), finances (81.8%) were the most cited. Instrumental support (63.8%) and emotional support (62.5%) were the most frequent types of care received by caregivers in assisting the elderly's demands. As for the burden, 24 reported feeling overwhelmed. For these patients, the mean score on the overload scale was  $41.1 \pm 14.75$ . Table 2 presents the socio-demographic, overload characterization of caregivers and care activities performed.

**Table 1.** Socio-demographic characterization, health condition and functional capacity of the elderly people associated with the PAD of the Santa Cecília Basic Health Unit of the Hospital de Clínicas of Porto Alegre, HCPA, Porto Alegre/RS, 2014

| Variables  | <i>n</i> | Descriptive Statistic |
|--|----------|-----------------------|
| Age in years; average±DT   | 80       | 82.11±9.62            |
| Elderly gender; <i>n</i> (%)   | 80       |                       |
| Female   |          | 57 (71.3)             |
| Male   |          | 23 (28.7)             |
| Elderly education; <i>n</i> (%)  | 80       |                       |
| Illiterate   |          | 8 (10.0)              |
| Primary Education  |          | 18 (22.5)             |
| Elementary School  |          | 27 (33.8)             |
| HighSchool   |          | 20 (25.0)             |
| Higher Education   |          | 7 (10.8)              |
| Total income in minimum wages; median (RIQ)  | 60       | 3.5(2-5)              |
| Marital status of the elderly; <i>n</i> (%)  | 80       |                       |
| Widow  |          | 36 (45)               |
| Married  |          | 27 (33.8)             |
| Single   |          | 11 (13.8)             |
| Divorced   |          | 6 (7.5)               |
| Yes, Main caregiver; <i>n</i> (%)  | 80       | 78 (97.5)             |
| Yes, contracted caregiver; <i>n</i> (%)  | 78       | 48 (61.53)            |
| Morbidity; <i>n</i> (%)  | 80       |                       |
| SAH  |          | 55 (68.8)             |
| AVC  |          | 30 (37.5)             |
| DM_2   |          | 19 (23.8)             |
| Dementia   |          | 15 (18.8)             |
| Parkinson  |          | 7 (8.8)               |
| Hospitalization; <i>n</i> (%)  | 80       | 37 (46.2)             |
| Fall; <i>n</i> (%)   | 80       | 39 (48.7)             |
| Functional Capacity - Katz Index; <i>n</i> (%)   | 77       |                       |
| A (Independent for all activities)   |          | 19 (24.7)             |
| B (Independent for all activities except one)  |          | 16 (20.8)             |
| C (Independent for all but bath and one more activity)   |          | 6 (7.8)               |
| D (Independent for all activities except bathing, dressing up and one more)                              |          | 1 (1.3)               |
| E (Independent for all activities, less bathing, dressing, going to the bathroom and one more)           |          | 6 (7.8)               |
| F (Independent for all activities, less bathing, dressing, going to the bathroom, transfer and one more) |          | 5 (6.5)               |
| G (Dependent for all activities)   |          | 21 (26.3)             |
| Others (Dependent on at least two functions, but not C, D, E, and F)                                     |          | 3 (3.9)               |
| Lawton Scale - Instrumental Activities of Daily Living; average±DT                                       | 78       | 13.85±5.01            |
| The elderly was sad or discouraged; <i>n</i> (%)   | 66       | 18 (27.3)             |
| Level of depression EDGa; <i>n</i> (%)   | 12       | 10 (83.3)             |



**Table 2.** Socio-demographic characterization, burden, and activities performed by the primary caregivers of elderly people associated with the PAD of the Santa Cecilia Basic Health Unit of the Hospital de Clínicas of Porto Alegre, HCPA, Porto Alegre/RS, Brazil, 2014

| Variables  | <i>n</i> | Descriptive Statistics |
|--|----------|------------------------|
| Age, mean ±SD                                    | 74       | 57.75±13.67            |
| Women; <i>n</i> (%)                              | 78       | 66 (84.6)              |
| Relationship of Family Caregivers; <i>n</i> (%)  | 62       |                        |
| Son  |          | 33 (53.2)              |
| Spouse   |          | 13 (20.9)              |
| Other  |          | 9 (14.5)               |
| Brother  |          | 7 (11.29)              |
| Type of support received; <i>n</i> (%)           | 78       |                        |
| Instrumental                                     |          | 51 (63.8)              |
| Emotional  |          | 50 (62.5)              |
| Finance  |          | 21 (26.3)              |
| Family caregiver feels overwhelmed; <i>n</i> (%) | 62       | 24 (38.7)              |
| Burden Score; average±DT                         | 24       | 41.04±14.75            |
| Activity performed; <i>n</i> (%)                 | 77       |                        |
| Shopping   |          | 69 (89.6)              |
| House cleaning                                   |          | 68 (88.3)              |
| Business   |          | 63 (81.8)              |
| Supervision for safety                           |          | 60 (78.9)              |
| Meal preparation                                 |          | 57 (74)                |
| Beware of Medications                            |          | 56 (72.7)              |
| Bath   |          | 41 (53.2)              |

Among the independent factors that had a statistically significant association with the elderly feeling sad or discouraged, Parkinson's disease was present as morbidity and had a male caregiver (Table 3).

According to Table 4, there was a statistically significant association with the caregiver feeling overwhelmed only when he/she needs to perform activities such as dressing, combing hair, brushing teeth and bathing.

**Table 3.** Multivariate analysis of Poisson regression to assess the independent factors associated with the elderly feeling sad or discouraged

| Variables       | RP (CI 95%)        | <i>p</i> |
|-----------------|--------------------|----------|
| Male caregiver  | 2.97 (1.36 – 6.52) | 0.006    |
| Parkinson       | 2.35 (1.18 – 4.71) | 0.016    |
| Dressing up     | 2.63 (0.85 – 8.11) | 0.092    |
| Preparing meals | 1.32 (0.34 – 5.17) | 0.691    |

**Table 4.** Multivariate analysis of Poisson regression to assess the independent factors associated with the caregiver's burden

| Variables                      | RP (CI 95%)        | p     |
|--------------------------------|--------------------|-------|
| Dressing up                    | 2.43 (1.36 – 4.35) | 0.003 |
| Combing hair                   | 2.08 (1.22 – 3.56) | 0.007 |
| Brushing teeth                 | 1.97 (1.15 – 3.39) | 0.014 |
| Bathing                        | 2.01 (1.11 – 3.64) | 0.021 |
| Preparing meals                | 2.57 (0.92 – 7.17) | 0.071 |
| Number of hospitalizations     |                    |       |
| None                           | 1.00               |       |
| One                            | 0.66 (0.31 – 1.42) | 0.287 |
| Two or more                    | 1.29 (0.73 – 2.28) | 0.376 |
| Katz Score                     |                    |       |
| A (Independents)               | 1.00               |       |
| B/C/D/Others (Mild dependence) | 1.30 (0.48 – 3.57) | 0.607 |
| E/F (Moderate dependence)      | 0.56 (0.07 – 4.34) | 0.581 |
| G (Severe dependence)          | 2.33 (0.94 – 5.78) | 0.068 |

## Discussion

The elderly attending this study represented around 2% of the total number of elderly enrolled in the UBS/HCPA. In a population survey in the elderly population living in the urban zone in 100 municipalities of the five Brazilian regions, the prevalence of elderly people in HC was 11.7%.<sup>(3)</sup> It is possible that other elderly people residing in the health unit's territory need care at home and have not yet been identified by the team or do not use the service.

As for gender, most were elderly, which may also be observed in previous studies on the elderly in home care.<sup>(11,12)</sup> Comparing the results related to the age of these studies, the mean age of this investigation was higher, composed of a larger proportion of older adults aged 80 years old or older.<sup>(5)</sup> Regarding morbidity, this study demonstrated that hypertension was more frequent, followed by DM-2 and stroke. It is known that the older the age, the greater the frequency of multi-morbidities and the incidence of functional decline. These multi-morbidities promote difficulties in activities of daily living, interfering with the autonomy and independence of the elderly.<sup>(11)</sup>

The percentage of elderly people who had hospitalization (46.2%) or some episode of home fall (48.7%) in the last year was high. A study with the objective of analyzing hospital admissions due to falls in the elderly in the scope of SUS between 2005 and 2010 identified that hospitalization for falls and corresponding costs, for this reason, increased during the period studied.<sup>(13)</sup> A cross-sectional study verified a prevalence of falls of 27.7 % in individuals classified as dependent for the Daily Life Activities (ADLs), identifying a strong association between falls and functional capacity (PR=2.08, 1.17-3.70). The results presented showed a significantly higher proportion of falls between elderly and functionally dependent elderly.<sup>(14)</sup> Findings regarding falls and hospitalizations of this investigation should also be related to age and the presence of some dependence. Most the elderly had independence for part of the basic activities and greater dependence on the instrumental ones. Functional incapacity favors the development of fragilities and is associated with the need for care and the presence of a caregiver, increasing their burden.<sup>(11)</sup> In the elderly, functional capacity is fundamental for clinical and functional evaluation, as an indicator



of the health-disease process, being essential in the planning of care for this group.<sup>(15)</sup>

Regarding the score of the Depression Scale, most elderly people presented mild depression and were female. A study of 449 elderly people found a prevalence of depression significantly associated with females, low education, and unmarried individuals.<sup>(16)</sup> Depression is a serious health problem among elderly people who receive care at home and is often Under-diagnosed and under-treated, which may accentuate their health problems.<sup>(17)</sup> Randomized clinical trial involving 285 elderly people, low-income and severely impaired patients evaluated the association between pain, depression and functional capacity, and concluded that depression besides often underdiagnosed and undertreated has a great association with pain and functional limitations of the elderly population.<sup>(18)</sup> Similar to this investigation, qualitative and quantitative studies indicate that caregivers are mostly women, wives or daughters with mean age of 47.7 and 50.6 years old, respectively. The results indicate an important variability in the family organization, considering that the advanced age of the caregiver may be another factor of stress for the family and its overload.<sup>(19)</sup>

Regarding the caregiver's burden, it was identified that 38.7% reported feeling overwhelmed. In the Zarit scale, the mean score obtained was 41.04 ( $\pm$  14.75). Although the authors of the scale did not indicate a cutoff point, Sobral researchers established as a cut-off point the value of up to 44 points for mild overload and identified in a study with elderly caregivers in the HC of ESF that 81.7% of the caregivers presented mild overload.<sup>(20)</sup> It is possible that the scores were not so high because the elderly participants were not totally dependent on basic activities. On the other hand, it is known that one of the important tasks of BC/PHC professionals and alleviating the burden of caregivers is the orientation of the same ones on the care for the elderly and of the care of the elderly.

In the multivariate analysis, there was a significant association between the caregiver's overload and the elderly's dependence on some of the

activities of daily living, such as dressing, combing hair, brushing teeth and bathing. According to the Ministry of Health, the act of caring is voluntary and complex, and it gives rise to different and contradictory feelings that may be simultaneous and should be understood as part of the relationship between the caregiver and the person being cared.<sup>(5)</sup> It is also known that care related to basic needs, such as food and bathing, require a greater dedication of the caregiver to the elderly, considering that they are uninterrupted activities, which makes caregiving often difficult for caregivers. (7) Regarding the support received, the study demonstrated that most caregivers received instrumental and emotional support. Other studies have shown that the caregiver often feels lonely and puts first the patients' needs to the detriment of self-care.<sup>(21)</sup> The lack of social and emotional support leads to an overload on caregivers, and this chance is 2.60 and 2.27 times higher in caregivers with social interaction and unsatisfactory emotional support respectively.<sup>(22)</sup>

This study showed a significant association of the elderly feeling sad or discouraged with the presence of Parkinson's disease, such as morbidity, and having a male caregiver. Review study found a strong link between major depressive disorder and neurodegenerative diseases, including Parkinson's disease, as well as the natural processes of aging. This relationship is possibly due to changes in the neuroplasticity, morphology, and neurotransmission of the brain, caused by aging and the presence of neurodegenerative diseases.<sup>(23)</sup> Also, another study demonstrates the association of Parkinson's disease with depression and anxiety that should be managed to prevent other morbidities.<sup>(24)</sup> No studies were found associating depressive symptoms or depression in the elderly with the presence of caregiver and gender. Only about the elderly male, widow, feeling alone, presence of disease and lack of financial resources were found.<sup>(25)</sup>

Knowing the characteristics of the elderly and their caregivers, considering aspects such as dependence falls, hospitalizations, depression evaluation, and overload show the importance of

HC in stimulating self-care, in guiding preventive measures, as well as the importance of performing a multidimensional evaluation of the elderly and evaluation of their caregivers. The implementation of home care, in an organized way, is an objective to be achieved, since it is a modality of fundamental attention for the care of the elderly and their informal network, having to respect the heterogeneity of the elderly and the possibilities of caring for the family. Thus, the nursing team can develop educational actions in the daily routine of home visits aimed at mitigating these aspects. Because it is a cross-sectional study, it is not possible to define causality, but only to establish hypotheses, which is a limitation of the study. Also, some elderly individuals who participated in the study and their caregivers may need to be followed up by SAD, not evaluated at the time of data collection. We suggest the development of follow-up studies evaluate the possible associations between the variables and the presence of depressive symptoms/depression and the caregiver's burden. Research that addresses the performance of home health care in the incidence of falls and re-hospitalizations is also recommended.

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