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# Nursing Diagnoses in Institutionalized Elderly Individuals according to Betty Neuman

**Theme:** Promotion and prevention.
**Contribution to the discipline:** Of the works already published about the theme of the present study, there is no association of the use of the Betty Neuman Model with formal elderly caregivers. Thus, the relevance and contribution of this article is evidenced so that the academic community know about the needs of this type of caregiver, in order to promote formative and care actions that have repercussions in the quality of life of the institutionalized elderly. Special attention is given to interventions aimed at reducing stress and stimulating caregiver self-care.

ABSTRACT

**Objective:** To identify nursing diagnoses in caregivers of institutionalized elderly and to associate them with stressors, according to the Betty Neuman Model. **Materials and Methods:** A cross-sectional, descriptive and quantitative study with 41 formal caregivers of institutionalized elderly. The data were collected using a structured form according to the Betty Neuman Systems Model. Subsequently, the diagnoses were formulated based on the NANDA-I Taxonomy and these were associated with the stressors perceived by the caregiver. **Results:** There was a prevalence of women with eight to 12 years of schooling who did not attend a caregiver course for the elderly. The stressors perceived by caregivers were family, financial, work and health. Fifteen nursing diagnoses were identified, highlighting: Sedentary lifestyle, anxiety, stress overload and impaired comfort. **Conclusions:** The use of the Neuman Model facilitated the identification of nursing diagnoses. The family stressor was the most prevalent in the caregivers' report. The main diagnoses identified show the need to meet the health demands of caregivers, since they can impact on the quality of care provided to the elderly.

KEYWORDS (source: DeCS)

Nursing diagnosis; caregivers; old man; institution of long stay for the elderly; professional exhaustion; institutionalized elderly.

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# *Diagnósticos de enfermería en cuidadores de ancianos institucionalizados según Betty Neuman*

RESUMEN

**Objetivo:** identificar diagnósticos de enfermería en cuidadores de ancianos institucionalizados y asociarlos a los estresores, según el modelo de Betty Neuman. **Materiales y método:** estudio transversal, descriptivo y cuantitativo, desarrollado con 41 cuidadores formales de ancianos institucionalizados. Los datos fueron recolectados mediante un formulario estructurado de acuerdo con el Modelo de Sistemas de Betty Neuman. Posteriormente, se formularon los diagnósticos basados en la Taxonomía NANDA-I y estos se asociaron a los estresores percibidos por el cuidador. **Resultados:** hubo prevalencia de mujeres que tenían de 8 a 12 años de estudio y que no hicieron curso de cuidador de ancianos. Los estresores percibidos por los cuidadores fueron del ámbito familiar, financiero, trabajo y salud. Se identificaron 15 diagnósticos de enfermería, de los que se destacan: estilo de vida sedentario, ansiedad, sobrecarga de estrés y comodidad perjudicada. **Conclusiones:** la utilización del modelo de Neuman facilitó la identificación de los diagnósticos de enfermería. El estresante familiar fue el más prevalente en el relato de los cuidadores. Los principales diagnósticos identificados muestran la necesidad de atender las demandas de salud de los cuidadores, ya que pueden impactar en la calidad del cuidado prestado a los ancianos.

PALABRAS CLAVE (FUENTE: DeCS)

Diagnóstico de enfermería; cuidadores; adulto mayor; institución de larga permanencia para ancianos; agotamiento profesional; ancianos institucionalizados.

# *Diagnósticos de enfermagem em cuidadores de idosos institucionalizados segundo Betty Neuman*

RESUMO

**Objetivo:** identificar diagnósticos de enfermagem em cuidadores de idosos institucionalizados e associá-los aos estressores, segundo o Modelo de Betty Neuman. **Materiais e método:** estudo transversal, descritivo e quantitativo, desenvolvido com 41 cuidadores formais de idosos institucionalizados. Os dados foram coletados mediante formulário estruturado de acordo com o Modelo de Sistemas de Betty Neuman. Posteriormente, foram formulados os diagnósticos baseados na Taxonomia NANDA-I e estes foram associados aos estressores percebidos pelo cuidador. **Resultados:** houve prevalência de mulheres, de 8 a 12 anos de estudo e que não fizeram curso de cuidador de idosos. Os estressores percebidos pelos cuidadores foram familiar, financeiro, trabalho e saúde. Foram identificados 15 diagnósticos de enfermagem, dos quais se destacam: estilo de vida sedentário, ansiedade, sobrecarga de estresse e conforto prejudicado. **Conclusões:** a utilização do Modelo de Neuman facilitou a identificação dos diagnósticos de enfermagem. O estressor familiar foi o mais prevalente no relato dos cuidadores. Os principais diagnósticos identificados mostram a necessidade de atender às demandas de saúde dos cuidadores, visto que eles podem impactar na qualidade do cuidado prestado aos idosos.

PALAVRAS-CHAVE (FONTE: DeCS)

Diagnóstico de enfermagem; cuidadores; idoso; instituição de longa permanência para idosos; esgotamento profissional; idosos institucionalizados.

## Introduction

The global population is aging, because the number of elderly grows more than the number of people born (1). In Brazil, this fact led to changes in the demographic and epidemiological profile (2), which increased the demand for Long-Term Stay Institutions for the Elderly (LTSIE). These are facilities that provide care for people 60 years of age or older and who are functionally dependent or independent (3).

In the LTSIE, the caregiver is supervised by the nurse, whose responsibility, among others, is to identify physical and psychological changes in these individuals. That daily care of the elderly is exhausting and requires physical and psychological conditions from the caregivers. Therefore, caregivers of the elderly in the LTSIE are susceptible to stress, which can cause disastrous consequences for their physical and mental health, and compromise the quality of care (4).

In order to promote individualized care and adequate to the needs, there is the nursing process (5). The nursing diagnosis is one of the steps in said process and represents a clinical judgment on the human response to health conditions and life processes, as well as representing vulnerability to such a response. Nurses diagnose health problems, states of risk, and provision for health promotion (6), using theories to promote holistic patient care.

This study used the Neuman Systems Model, which assesses caregiver stress and their reaction to such. Environmental influences are classified as intra (stressors within the limits of the client's system), inter (stressors outside the limits of the client's system), and extra-personal (stressors beyond the limits of the client's system and which are at a greater distance than the interpersonal). The individual relates to internal and external stressors towards a state of equilibrium (7-8). Using this model in the study is justified by identifying the principal stressors of the individual (9). Furthermore, it is deemed that the combined use of the Neuman Model and the nursing diagnoses can identify the stressors in the caregiver-care relationship, to guide the nurse's decision-making in the health promotion of the caregiver.

Formal caregivers of elderly have high stress that can interfere in the care (4). Thereby, this study will help nurses and multidisciplinary staff to promote training and care actions that affect the quality of life of the elderly in LTSIE. In this regard, this research sought to identify nursing diagnoses in caregivers of institutionalized elderly and associate them to the stressors, according to Betty Neuman's Model.

## Materials and Method

Cross-sectional, descriptive, and quantitative study developed in two LTSIE in Fortaleza, Ceará, Brazil, a governmental institution and a philanthropic institution, from April to June 2016. These institutions have specialized care, high complexity attention, and treatment of the elderly in partial, total, and terminal-phase dependence. The philanthropic LTSIE serves 220 elderly and the governmental serves 88. These entities assist in the areas of social action, health, nutrition and management, comprised by multi-professional staff. In addition, they are references in the care of the elderly in Fortaleza, which justifies their selection as research locations.

The study population was comprised by 60 formal caregivers. The sample included 41 participants, selected by the non-probabilistic sampling technique and by convenience, including those who were on duty during the data collection period and who had time available to respond to the instrument. Caregivers from both genders participated, who had worked at least for one year. Nineteen professionals were excluded because they were on vacation or on leave.

The questionnaire was elaborated according to the aforementioned model and involved three stages: a) Input summary (name, age, gender, schooling, marital status, number of children, former occupation); b) Stressors perceived by the caregiver (principal area of stress, changes in standard of living, prior experiences, ways of coping, consequence of the current situation, self-help, help from third parties); c) Summary of feelings: c1) Interpersonal-physical factors (pathologies, medications, musculoskeletal problems, cigarette and alcohol consumption, periodic health assessment, nightly rest, anthropometric measurements, eating habits), psycho-sociocultural (physical activity, recreation, support social network), system of spiritual beliefs (religion, hope, help during moments of sadness); c2) Interpersonal factors (family relationship, with elderly and caregivers), and c3) Extra-personal factors (locomotion and job satisfaction, financial provider of the home, family monthly income) (7-8).

Data was collected through interview conducted by one of the nurse authors of the study, in a private environment, lasting 30

minutes, using an instrument constructed by the authors, structured according to Betty Neuman's Model (7-8). Prior to starting the interview, each caregiver was explained the objective of the research and asked to sign the Free and Informed Consent Form (FICF), which was shared with the participant.

Participants were protected as provided by Resolution 466/2012 by the National Health Council. From the FICF, caregiver anonymity was guaranteed, and the information collected was used for educational purposes. Some questions were a cause for participant embarrassment. This showed, measures were taken to minimize it: Give participants the freedom to not respond and respect their time, waiting for when they wished to resume speaking. The project was submitted to the Research Ethics Committee at Universade Estadual do Ceará and approved on 13 April 2016, under protocol # 1,489,910 and Certificate of Presentation for Ethical Appraisal (CPEA) # 26897314.1.0000.5534.

The data obtained were analyzed and used for the sociodemographic characterization of the caregivers, the description of the stressors perceived by them, identification of the nursing diagnoses, and the relationship of such stressors with the diagnoses identified.

Identification of the nursing diagnoses was conducted according to the NANDA-I Taxonomy (6). The diagnoses were determined by two researchers, who collected the data and a second specialist in nursing diagnosis, who carried out the process of diagnostic reasoning based on the assessments of the instruments. In cases in which there was no consensus of the diagnoses, a third specialist was consulted. Said researchers were selected by consulting the Lattes curriculum, which identified those with experience in nursing diagnosis.

The data were tabulated in Microsoft Excel. The Statistical Package for the Social Sciences software, version 18.0 was used for analysis. Pearson's chi-square test was applied to verify the association among the variables of age, gender, schooling, marital status, number of children, family monthly income, and stressors (family, financial, health, and work) with the nursing diagnoses, considering a value of $p < 0.05$ as statistically significant.

## Results

Of the 41 interviewees, 31 were female (75.6 %). The age group with the highest prevalence between men and women was from 50 to 59 years (36.6 %). Regarding marital status, 23 caregivers were married/stable union (56.1 %); 22 had between one and two children (53.7 %), and 24 lived with four or more people in the home (58.5 %). In terms of schooling, 28 reported 8 to 12 years of studies (68.3 %). More than half had not taken a course on caregiver for the elderly (65.8 %) and had no prior experience in the area (90.3 %). A principal prior occupation was doctor's office attendant (26.8 %), see Table 1.

**Table 1.** Sociodemographic characterization of formal caregivers of institutionalized elderly. Fortaleza, Ceará, Brazil, 2016 (n = 41)

| Variables | N | % |
|---|---|---|
| Gender | | |
| Female | 31 | 75.6 |
| Male | 10 | 24.4 |
| Age* | | |
| 30-39 | 9 | 22.0 |
| 40-49 | 13 | 31.7 |
| 50-59 | 15 | 36.6 |
| > 60 | 4 | 9.7 |
| Marital status | | |
| Married/stable union | 23 | 56.1 |
| Single | 13 | 31.7 |
| Separated/divorced | 3 | 7.3 |
| Widow(er) | 2 | 4.9 |
| Children | | |
| Do not have | 3 | 7.3 |
| 1-2 | 22 | 53.7 |
| > 3 | 16 | 39.0 |
| Number of residents in the household | | |
| 1-3 | 17 | 41.5 |
| ≥ 4 | 24 | 58.5 |

| Variables | N | % |
|---|---|---|
| Schooling | | |
| < 8 | 5 | 12.2 |
| 8-12 | 28 | 68.3 |
| > 12 | 8 | 19.5 |
| Elderly caregiver course | | |
| Took a course | 14 | 34.2 |
| Did not take the course | 27 | 65.8 |
| Prior occupation | | |
| Caregiver | 4 | 9.7 |
| Other | 37 | 90.3 |

*Age (years): Mean: 47.9; minimum: 30; maximum: 65.

Source: Own elaboration.

A Table 2 shows the relationship between the stressors of Betty Neuman's Model and the nursing diagnoses of formal caregivers of institutionalized elderly. The family stressor prevailed (51.2 %), while health itself was the least reported complaint (14.6 %). Family stressors involved problems with the spouse, children and parents. In the financial aspect, debt was the main complaint. In relation to work, they reported work overburden. As for health, complaints were cited, like being overweight, as well as osteoarticular and gynecological problems. It is highlighted that each caregiver can have more than one nursing diagnosis, with caregivers who identified the family as the principal area of stress obtaining more diagnoses. Fifteen nursing diagnoses were identified; among them, it is worth noting the diagnosis of dysfunctional family processes, which were present in 83.3 % of caregivers with health problems, 61.9 % with family stressor, and 42.8 % with complaints at work ($p = 0.042$) (Table 2).

**Table 2.** Relationship between the stressors identified according to Betty Neuman's Model and the nursing diagnoses of formal caregivers of institutionalized elderly. Fortaleza, Ceará, Brazil, 2016

| | Stressors of Betty Neuman's Model | | | | |
|---|---|---|---|---|---|
| | Family n (%) | Financial n (%) | Health n (%) | Work n (%) | |
| Number of caregivers<br>Nursing diagnoses | 21 (51.2) | 7 (17.1) | 6 (14.6) | 7 (17.1) | p value* |
| Deficient recreational activity | 15 (71.4) | 3 (42.8) | 4 (66.7) | 5 (71.4) | 0.981 |
| Sedentary lifestyle | 17 (81.0) | 4 (57.1) | 4 (66.7) | 6 (85.7) | 0.865 |
| Ineffective health maintenance | 12 (57.1) | 4 (57.1) | 4 (66.7) | 4 (57.1) | 0.682 |
| Overweight | 13 (61.9) | 4 (57.1) | 3 (50.0) | 7 (100.0) | 0.131 |
| Obesity | 3 (14.2) | 1 (14.3) | 1 (16.7) | - | 0.709 |
| Impaired sleep pattern | 15 (71.4) | 5 (71.4) | 6 (100.0) | 5 (71.4) | 0.949 |
| Fatigue | 7 (33.3) | 3 (42.8) | 2 (33.3) | 4 (57.1) | 0.443 |
| Impaired home maintenance | 15 (71.4) | 4 (57.1) | 5 (83.3) | - | 0.072 |
| Willingness for improved hope | 21 (100.0) | 5 (71.4) | 6 (100.0) | 6 (85.7) | 0.592 |
| Dysfunctional Family processes | 13 (61.9) | - | 5 (83.3) | 3 (42.8) | 0.042 |
| Willingness for improved relationship | 20 (95.2) | 7 (17.1) | 6 (100.0) | 7 (100.0) | 0.545 |
| Tension in the caregiver role | 4 (19.0) | 2 (28.6) | 3 (50.0) | 4 (57.1) | 0.148 |
| Anxiety | 20 (95.2) | 5 (71.4) | 5 (83.3) | 5 (71.4) | 0.570 |
| Stress overload | 21 (100.0) | 5 (71.4) | 6 (100.0) | 3 (42.8) | 0.112 |
| Discomfort | 16 (76.1) | 4 (57.1) | 6 (100.0) | 5 (71.4) | 0.780 |

* Pearson's chi-square test.

Source: Own elaboration.

Twenty seven (65.8 %) caregivers state not engaging in leisure activities due to not having the financial conditions and time. From that, deficient recreational activity was a diagnosis characterized by boredom, related to insufficient recreational activities. Said diagnosis was present in 74.2 % of the women and in only 40 % of the men ($p = 0.047$).

It was verified that 31 individuals (75.6 %) did not practice physical exercise, configuring the sedentary lifestyle diagnosis characterized by daily physical activity below that recommended for gender and age, related to the lack of motivation and to insufficient resources to perform it. Among the participants, 24 did not perform periodic health assessments (58.5 %). Thereby, the diagnosis of ineffective health maintenance was observed, characterized by the absence of health-seeking behaviors, related to ineffective coping strategies, insufficient financial resources and time.

Anthropometric measurements (weight and height) of the workers were verified, and 27 of them (65.8 %) had a body mass index (BMI) $\geq 25$ kg/m², which classifies as diagnosis of overweight. Five caregivers (12.2 %) had BMI $> 30$ kg/m², attributed to the diagnosis of obesity. Said diagnoses are related to inadequate eating behaviors and to a sedentary lifestyle. The caregivers reported only three large meals a day because they were hungrier. Due to the lack of time to prepare meals, they also ate high-calorie foods of low nutritional content because of their ease of preparation.

Tiredness after nocturnal sleep was reported by 22 individuals (53.7 %), and 17 (41.5 %) had insomnia or difficulty sleeping because they were alert during the night shift, or were anxious at home. They reported that, even during breaks, they had difficulty sleeping because they were accustomed to night work, waking up feeling tired. Alterations in the sleep pattern were reported by employees who worked during the day. Thus, the diagnosis of impaired sleep pattern was identified, characterized by altered sleep pattern, dissatisfaction with sleep and not feeling rested, having as factors related to environmental barrier and non-restorative sleep. Said diagnosis had a relationship of dependence with the number of children, given that only 66.7 % of the people who did not have children had altered sleep, while 95.5 % of those with one or two children and all the caregivers with more than three children had that diagnosis ($p = 0.048$).

Sixteen participants (39 %) reported physical symptoms (headache, tiredness, lack of energy, and bodily pain, mainly of the back), due to the routine of work and home. The nursing diagnosis of fatigue was emphasized, given the existence of a non-restorative sleep pattern, consequential of increased physical effort, stress, and of the job requirements.

Twenty four (58.5 %) caregivers mentioned insufficient income for monthly expenses, needing support for household expenses. The diagnosis of impaired home maintenance was verified, characterized by debt and insufficient financial resources, overwhelming family responsibilities, and request for help to maintain the house, having as related factor insufficient family planning. People with income above four minimum wages did not have said diagnosis ($p = 0.001$). Thirty eight caregivers (92.7 %) considered themselves optimistic about their problems and stated that they expected improvement in the situation they were experiencing, indicating the diagnosis of disposition for improved hope.

Not having good relationships with some relatives was verbalized by 21 caregivers (51.2 %), who reported misunderstandings, disrespect from the children, betrayal, and not being valued by the spouse. These facts are present in the defining characteristics of the diagnosis of dysfunctional family processes, related to ineffective coping strategies and insufficient problem-solving skills. Said diagnosis was more present in women (61.3 %) than in men (20.0 %) ($p = 0.023$).

Among the caregivers, 90.3 % reported good relationship with other caregivers and elderly (97.5 %). The diagnosis of disposition for improved relationship was evidenced, characterized by the expression of desire to improve collaboration, communication, and mutual respect between partners. Meanwhile, 13 individuals (31.7 %) were not satisfied with their work, complaining of delays in wages, lack of professional recognition by the institution, injustice, and humiliation. The diagnosis of stress of the caregiver role, characterized by fatigue, frustration, anger, and nervousness, related to insufficient care and to excessive care activities, was identified among the caregivers. Fear, anguish, tension, anxiety and apprehension about the problems were observed in 35 participants (85.4 %). These elements define the anxiety diagnosis and are related to stressors and important change (economic and health condition), besides situational crisis.

Symptoms of stress were observed in 35 workers (85.4 %), with 82.9 % women and 17.1 % men ($p = 0.009$). Thereafter,

the diagnosis of stress overload was defined by increased impatience, excessive stress, tension and its negative impact (physical symptoms and psychological suffering), related to repeated stressors and to insufficient financial resources. The association with income was statistically significant, given that caregivers with incomes above four minimum wages present lower frequency of said diagnosis (11.4 %) ($p = 0.006$). The anxiety diagnosis was not present in individuals without children ($p = 0.000$) and these represented only 2.9 % of the participants with stress overload ($p = 0.029$). However, those with anxiety (95.5 %) and stress overload (90.9 %) were caregivers with one to two children.

Many caregivers (75.6 %) felt pain, especially in the back and joints. The diagnosis of discomfort was present by being unable to relax and by the sense of discomfort, related to insufficient situational control and symptoms related to the disease.

## Discussion

There was greater prevalence of individuals of female gender, from 8 to 12 years of studies and without a course for providing care to the elderly, which revealed the precariousness of the profession due to training and qualification difficulties in the area (10-11) and, consequently, to the lack of professional preparation (4). Another study with caregivers identified that 48 % of them had no adequate preparation, and 67 % considered it necessary to seek more in-depth training (12). It should be emphasized that the regulation for caregivers as professionals is underway for approval, under Senate Bill # 284 (13). The qualified professional directly influences the care provided. Thereby, it is important to provide knowledge to employees to ensure quality of care.

The diagnoses of deficient recreation activity and sedentary lifestyle were the most present among caregivers, prevailing among women. The influence of gender was verified in the determination of the diagnoses, consequential of the overload of daily tasks, like work, household chores, and caring for relatives. This last task was the factor that interfered most in the lack of time for themselves and for moments of leisure. Caring for another restricts the caregiver's capacity to carry out personal activities (14). This finding points to the need for educational strategies that aim at changes in life habits, given that a sedentary lifestyle is a risk factor for health problems. Physical exercise is an effective, low-cost measure to promote health. Adoption of a healthy lifestyle is related to improved quality of life and favors controlling overweight and obesity identified in this research (15-16).

More than half of the caregivers had a diagnosis of inefficient health management, that is, they did not conduct periodic consultations and exams. Prevalence was noted on the emphasis to care for another and forget oneself. Caring for an elderly individual for a long period is a risk factor for caregiver sickness. Therefore, as important as the well-being of the elderly is that of the caregivers (17), given that they need to healthy to promote the wellbeing of others.

Regarding nutritional status, many participants had overweight or obesity nursing diagnoses. Excess weight can be associated to the work environment in shifts, mainly the night shift, besides the service overload and the psychosocial stress at work (18-19). The interaction of said factors affects the physiological and psychological condition, which can affect weight gain (20). These findings, together with physical inactivity and no periodic medical evaluation can aggravate cardiovascular risks, especially considering the age range of caregivers. Studies show that weight gain and increased abdominal circumference are prognostic indicators for cardiovascular diseases (21-22).

With respect to the diagnosis of impaired sleep pattern, it was observed that the participants did not have restful sleep, especially those working the night shift. In this regard, another study revealed that 72.5 % of the caregivers of elderly had difficulty falling asleep and 100 % had sleep disorders, with the low quality of such being associated to psychological symptoms and to lower quality of life (23).

The diagnosis of fatigue results from excess of activities with physical effort and double work shift, like at work and home. Tiredness was also cited by caregivers of elderly in a Mexican study (24). This physical and mental wear compromises the quality of care to the elderly and limits the disposition and concentration of the caregiver. The complexity of caring for the elderly and the work overload harm professionals and patients, given that caregivers perform functions beyond their capacity, which can result in providing care in imbalanced manner and unsatisfactory results (14). The need is highlighted for more support by adopting prevention measures and a support social network to the caregivers (24).

The diagnosis of impaired maintenance of the home referred to difficulties in the family budget and in meeting their needs. In another study, caregivers of elderly had low income and unfavorable economic conditions (25). It has been shown that the levels of stress in caregivers of elderly individuals are due to the job demands and activities at home (16). Although the economic conditions of the caregivers do not seem favorable to them, they showed disposition for improved hope. Hope is a factor that contributes to well-being, satisfaction, and adaptation to stress caused by daily adversities (26). Said feeling impacts upon the perception of the subjects about the quality of life, social relationships, physical and psychological health, and can modify positively their views during difficulties (27).

Family problems arising from affective relationships with their partner can affect the caregivers' emotional conditions during their service. Such conditions interfere negatively at work, generating fatigue and exhaustion (28). Said data agrees with this study, in which many caregivers with diagnosis of dysfunctional family processes report having their health as principal area of concern, followed by family stressor. It is worth noting that caregivers manifested symptoms of anxiety, insomnia, and other psychological manifestations.

Caregivers had good relationships with one another and, especially, with the elderly. Continuous contact with elderly individuals cooperates in the construction of affective relationships, leading caregivers to consider the elderly as their relatives (4). It is highlighted that the elderly desire social interaction; thus, daily contact and good relationships are relevant for their quality of life (29). It is perceived that the process of caring for the elderly requires skills and essential virtues, such as dedication, love, patience and fulfillment. Such attitudes were revealed in most of the accounts by the participants who reported feeling pleasure in working with the elderly.

Stress in the caregiver role was associated to work overload and to the lack of recognition of the caregivers in detriment of other professional categories. The caregiver function has poor visibility, and the occupation is, often, underestimated (14). A study conducted in Colombia identified that 22.2 % of the caregivers of elderly individuals report intense overload, which reinforces the need for an instrumental, informative, and emotional support network for the caregiver (30).

The discomfort diagnosis was related to the type of care provided to the elderly, notably regarding the hourly workload and the limited time for leisure and rest. Such conditions are essential for any type of health worker, especially, those in the nursing area, whose activities require physical effort and constant attention to the person cared for. Other studies also referred to work overload and discomfort (31), besides the physical problems that affected the capacity of caregivers at work (16).

## Conclusion

Application of the questionnaire according to Betty Neuman's Model was efficient for data collection and contributed with the clinical reasoning, facilitating the identification of the nursing diagnoses, given that it guided the data collection according to the caregiver's context, above all in aspects related to stress. It was noted that interpersonal stressors were the variables that led most to nursing diagnoses.

It was verified that caregivers did not have the training required to perform the function; also, problems were observed in relation to their quality of life and to physical and mental health, which resulted in 15 nursing diagnoses, highlighting sedentary lifestyle, anxiety, stress overload, and discomfort.

The research results were presented to the nurses responsible for the institutions and proposals were suggested for changes at work, seeking to improve the quality of life of the caregivers and the care to the elderly, given that the worker's health and the working conditions impact upon the quality of the care provided.

The study recommends reformulating the working conditions of the caregivers, independent of not having regulated labor legislation. This is necessary due to the importance of the work of the caregivers with the elderly population. The precariousness of the caregivers' work can be prevented and reduced with institutional support, psychological support, and recognition.

Although the caregiver is not legally a part of the nursing staff, in practice, said caregiver is supervised by the nurse in the LTSIE. Hence, it is important for nurses to supervise and guide the care provided to the elderly by caregivers. The institution needs to be aware of the working conditions of its employees to try to reduce the stress overload of the caregivers and improve the work environment. It is worth highlighting the need to create

mechanisms to prevent injuries and promote the health of the institution's workers.

During the data collection, some employees felt somewhat uncomfortable reporting family and work problems, needing more time to ensure closeness with the researcher. In addition, one of the LTSIE was philanthropic and the other governmental; hence representing different operational dynamics, which may have hindered obtaining research findings, in terms of the working conditions of the caregivers.

This study contributes to the work of nurses with the elderly and caregivers, and showed the principal aspects in which to intervene. Research is suggested that implements and evaluates interventions with positive impact on the quality of life and work, considering the reduction of stress. Such activities may include improvement courses, continuing education on service, individual or group activities, with practices of relaxation, communication, recreation, and physical exercise.

**Conflict of interests:** None declared.

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