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Health and work conditions between caregivers of elderly

Condições de saúde e trabalho entre cuidadores de idosos frágeis

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RESUMO | INTRODUÇÃO: A presença de problemas físicos e de saúde contribuem para que os idosos se tornem dependentes do auxílio de cuidadores para a realização das atividades básicas e instrumentais da vida diária. **OBJETIVO:** Avaliar as condições de saúde e de trabalho de cuidadores de idosos frágeis usuários do Centro de Referência Estadual de Atenção à Saúde do Idoso (CREASI). **MÉTODO:** Estudo observacional de corte transversal realizado no CREASI. Participaram do estudo 41 cuidadores. Foram coletadas informações sobre os aspectos sociodemográficos, atividade de cuidador, saúde do cuidador, sobrecarga doméstica e foi avaliada a frequência de dores musculoesqueléticas através do questionário Nórdico dos Sintomas Musculoesqueléticos (NMQ). **RESULTADOS:** A maioria dos participantes eram mulheres, filhas/os, informais, com idade 48,8 (±14,5) anos, 44% dos participantes possuíam ensino médio completo, 95,1% estavam satisfeitos com a atividade de cuidar do idoso e 87,8% não possuíam curso de capacitação. A alta sobrecarga doméstica foi observada em 51,2% dos cuidadores e 50% possuíam doenças crônicas degenerativas. De acordo com o NMQ, 46,34% relataram dor lombar e 26,83% dor na coluna dorsal. **CONCLUSÃO:** Foi possível observar um excesso de atividades realizadas pelo cuidador que quando acumuladas causam sobrecargas físicas e sintomas dolorosos pelo corpo, o que pode comprometer a atividade do cuidado e a saúde do cuidador. Assim, a formação em cuidador de idoso pode ser uma alternativa para evitar riscos a sua saúde como a do idoso cuidado.

PALAVRAS-CHAVE: Cuidadores. Idoso. Idoso fragilizado. Dor musculoesquelética.

ABSTRACT | INTRODUCTION: With the appearance of physical and health problems, the elderly become dependent, needing the help of caregivers in carrying out the basic daily activities. **OBJECTIVE:** To evaluate the health and working conditions among caregivers of fragile elderly in the State Reference Center for Health Care of the Elderly (CREASI). **METHOD:** Observational cross-sectional study performed at CREASI. It was 41 caregivers were analyzed regarding sociodemographic aspects, caregiver activity, caregiver health, domestic overload and the frequency of musculoskeletal pain was evaluated by the Nordic questionnaire on musculoskeletal symptoms (NMQ). **RESULTS:** Most caregivers were female, daughters, informal, with a age of 48,8 (±14,5) yeares. Regarding education, 43.9% had completed high school, 95.1% were satisfied with the activity of caring and 87.8% did not have a training course. The high domestic overload was observed in 51.2% of caregivers and 50% had chronic degenerative diseases. According to the NMQ, 46.34% had low back pain, followed by 26.83% with pain in the dorsol column. **CONCLUSION:** It was possible to notice excess activities carried out by the caregiver who, when they accumulate, cause physical overloads and generate painful symptoms through the body, which may compromise the care and health of the caregiver. Thus, caregiver training would be beneficial in avoiding risks to the health of both the caregiver and the elderly.

KEYWORDS: Caregivers. Elderly. Frail elderly. Musculoskeletal pain.

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Introduction

With increasing longevity, the number of elderly people in the population is evolving and as a consequence of the irreversible aging process some prevalent conditions are highlighted as partial or total functional disability, cognitive decline, risk of falls and a predominance of chronic conditions degenerative diseases, which have an impact on the elderly's health and need for care[1]. Faced with physical and behavioral changes due to fragile health, the elderly may present difficulties to perform the basic and instrumental activities of daily living. One of the care options for this population is the caregiver service for the elderly, whose function is to provide physical and emotional support and help with the activities of daily living (ADL).[2,3]

The activity of caring for the frail elderly can be performed formally or informally, these differences can have an impact on the quality of care provided. Informal care has as its main element the participation of the family, and can also be carried out by neighbors, friends and volunteers, without preparatory course and employment bond4. On the other hand, formal caregivers support the elderly through remuneration and can exercise this activity in different shifts, depending on the need, in households or institutions[5].

The mostly informal care activity is carried out by women who have a degree of kinship, being wives or daughters, who are older and who dedicate most of their time to care[6]. Given this, the caregiver has his routine modified by the occupations with the elderly, which implies an increase in demands for help and tasks. The lack of training of the caregiver directly interferes with care, since the absence of information impairs the quality of care for the frail elderly, since the caregiver is responsible for transferring information to health professionals, controls the medication and should keep vigilant about the needs and risks that involve the routine of the elderly.[7]

Fragility is considered a multifactorial condition, as a result of social, physiological, biological, psychological and environmental factors, which when associated with the deleterious effects of aging can affect the quality of life of the elderly[8].

Another consequence of the physical fragility is the increased risk of falls, functional incapacity, complications of diseases, hospitalizations and institutionalization[8,9,10]. Thus, assuming responsibility for care can generate exhaustion because the caregiver restricts his life to administer care[11]. In addition, task overload, work-related illnesses, physical and cognitive characteristics of the elderly, lack of experience, prolonged care and lack of help from third parties implies attrition, characterized by physical and emotional repercussions. cause health impairment[11,12].

The numerous tasks performed by the caregiver provoke exposures to emotional and biomechanical aspects represented by pain, the first sign of dysfunction. In this context, musculoskeletal disorders may result from the caregiver's health conditions, lack of physical training and working conditions[13]. Musculoskeletal pain is the most prevalent in the world population and is understood as an uncomfortable feeling that affects muscles, tendons and joints, being able to trigger personal problems that affect social participation, independence and reaches the economy of the country, facing the needs demanded by the population. The physical and / or emotional exhaustion caused by work can make the caregiver move away from his occupation, interfering in his financial condition, as well as in the process and quality of care provided[14,15]. Given this context, the study aimed to evaluate health and working conditions among caregivers of fragile elderly.

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The fragility seen as the vulnerability of the elderly was determined according to the stratification scale used in the service[16]. The scale is composed of 10 functional clinical categories, in which from 1 to 3 the elderly individuals are considered robust, present themselves independently and autonomously, without functional disability or some chronic condition; from 4 to 5, it is considered an individual risk of fragility encompassing the elderly capable of managing their life independently and autonomously, with the presence of certain functional limitations, but without causing functional dependence; from category 6 are considered frail elderly, with an established functional decline, being unable to manage their own lives as a result of single or multiple disabilities[16].

Initially visits were made to the service to analyze the medical records and identify the fragile elderly. Next, the primary caregivers who accompanied the elderly during the care received explanations about the purpose of the study and how the procedures would be performed. Caregivers who agreed to voluntarily participate in the research read and signed the Informed Consent Term (ICT).

A questionnaire was applied with the general characteristics of the caregiver, subdivided into four blocks. The first one described sociodemographic data: age, sex (female and male), marital status (single, married, widowed, divorced), schooling (complete and incomplete fundamental, complete and incomplete high school, and incomplete), type of caregiver (formal and informal) and degree of family relationship (spouse, child, grandchild, others). The second block was composed of questions related to caregiver activity: care time, working hours per day (up to 6, up to 8 or more than 12 hours), work days per week (up to 2 days, 3 days, over (Bathing in the bed or bathroom, transfers, clothing, food, personal hygiene, walking support and support to move ladder or ramp), place of care (home the elderly, own house or other place). In addition to these items, issues related to caregiver satisfaction with work, existence of another profession, training course for care and clinical condition of the elderly were included. The third group evaluated the health condition of the caregiver, the clinical conditions attested by the ICD. Lastly, the fourth group assessed the domestic overload (if you perform activities such as cooking, washing and ironing, cleaning, minor repairs, fair and supermarket, if you are the main responsible for domestic activities, what days do these activities and take care of children under 7 years).

The household overload questionnaire was evaluated through the sum of the basic domestic activities (cooking, ironing and washing and cleaning) by the average number of inhabitants minus the interviewee, using the formula: SD = (Σ wash + pass + clean + cook) x (M-1) [17]. Then the mean of this variable was performed and the values above the mean were categorized in high domestic overload and the values below the mean were considered low domestic overload.

In order to evaluate the regions of musculoskeletal discomfort related to the work of the main caregiver, the Nordic Questionnaire was used, consisting of yes or no questions, where the individual should report the occurrence of symptoms in the last 12 months and 7 days in nine regions of the body (neck, shoulder, upper back, elbows, wrists / hands, lower back, hips / thighs, knees, ankles / feet) [18].

The data were organized into spreadsheets in Excel and analyzed through descriptive statistics with absolute and relative frequencies. The variables were evaluated according to centralization and dispersion measures when according to the nature of the variable. The results were analyzed using the SPSS 21 program.

This study respects the ethical aspects of the research involving human beings contained in resolution CNS 466/12 and was approved by the Research Ethics Committee of the Health Sciences Institute - Federal University of Bahia, Salvador, Bahia, Brazil.

Results

The caregivers of fragile elderly had a mean age of 48.8 (± 14.5) years, the majority (80.5%) were female, the child of the elderly (68.3%) and provided informal care (82.9%). Regarding schooling, 43.9% had completed high school and only 12.2% had completed higher education. (TABLE 1)

Table 1. Socio-demographic characteristics of caregivers of frail elderly of CREASI, Bahia, 2017

Variables	n	%
Sex(41)		
Male	8	19.5
Female	33	80.5
Age (41)		
17 until 45	21	51.2
46 until 59	11	26.8
60 or more	9	22.0
Marital Status(41)		
Single	19	46.3
Married	16	39.0
Widow	2	4.9
Divorced	4	9.8
Education (41)		
Complete elementary school	7	17.1
Incomplete elementary school	3	7.3
Complete middle school	18	43.9
Incomplete middle school	5	12.2
Complete Higher Education	5	12.2
Incomplete Higher Education	3	7.3
Caregiver Catgory (41)		
Formal	7	17.1
Informal	34	82.9
Relationship (35)		
Partner	6	14.6
Son	28	68.3
Grandson	1	2.4

The analysis of the characteristics of the work revealed that, 95.1% of the caregivers were satisfied to exercise the care activity. However, 87.8% did not have a training course to care for the frail elderly. In addition, 63.4% reported that they did not have another profession, 61% cared for the elderly more than 12 hours a day, 80.5% did this activity the whole week and 41.5% of caregivers performed this work only 1 year and 48.8% shared the home with the elderly. (TABLE 2)

Table 2. Characteristics of work in caregivers of the elderly CREASI, Bahia, 2017

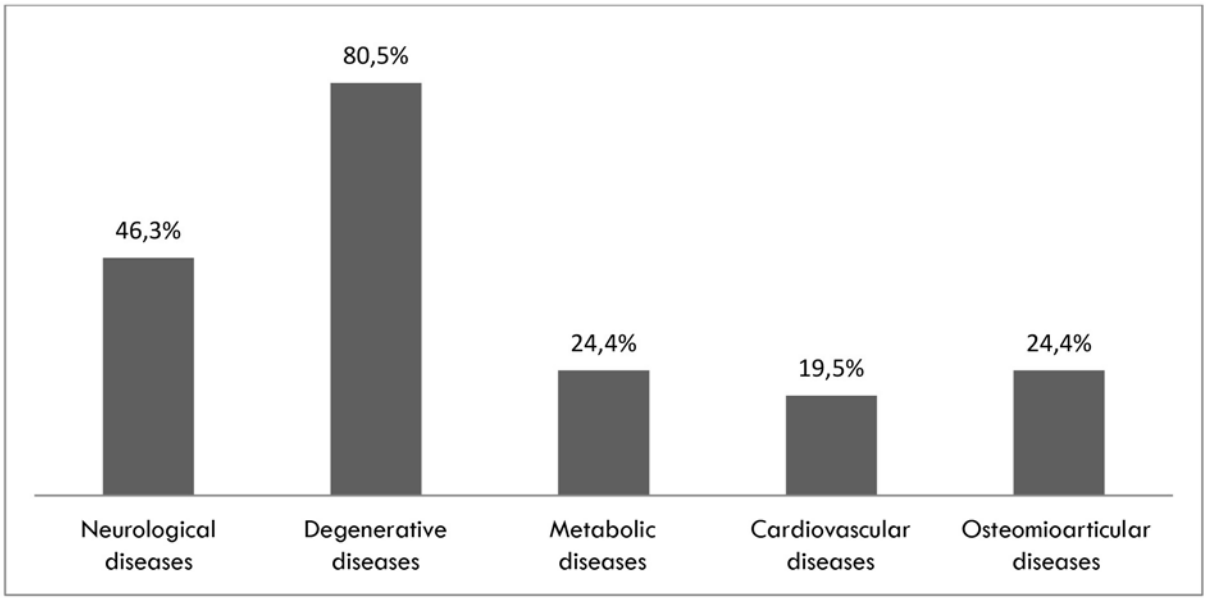
Variables	n	%
Work hours (41)		
Up to 6 hours	7	17,1
Up to 8 hours	9	22,0
More than 12 hours	25	61,0
Time in care service (41)		
Up to 12 months	17	41,5
13 up to 2 years	8	19,5
3 up to 5 years	7	17,1
5 years or more	9	22,0
Days of work (41)		
Up to 2 days	1	2,4
3 days	2	4,9
More than 3 days	5	12,2
Whole week	33	80,5
Training (41)		
No	36	87,8
Yes	5	12,2
Workplace(41)		
Home	19	46,3
Own Home	20	48,8
Another place	2	4,9
OtherActivity (41)		
No	26	63,4
Yes	15	36,6
Satisfaction (41)		
No	2	4,9
Yes	39	95,1

High household overload was observed in 51.2% of caregivers, 90.2% reported being the main responsible for domestic activities in their home, 78% performed activities every day of the week and 63.4% lived with up to 3 people (TABLE 3). The most prevalent diseases in the elderly receiving care were degenerative diseases (80.48%), followed by neurological diseases (46.34%). (FIGURE 1).

Table 3. Domestic overload in caregivers of the elderly CREASI, Bahia, 2017

Variables	n	%
Domestic Overload (41)		
High overload	21	51,2
Low overload	20	48,8
Caring for children under 7 years (41)		
No	32	78,0
Yes	9	22,0
Minor repairs (41)		
No	20	48,8
Yes	21	51,2
Supermarket (41)		
No	9	22,0
Yes	32	78,0
Responsible for domestic activities(41)		
No	4	9,8
Yes	37	90,2
Days of domestic activities (41)		
Every day of the week	32	78,0
3 or more days	3	7,3
One or two days	3	7,3
Only at the weekend	2	4,9
Did not perform	1	2,4
People who live in the house (41)		
Up to 3 people	26	63,4
4 to 5 people	12	29,3
6 or more people	3	7,3

Figure 1. Morbidity profile in the elderly assisted by physical therapy at CREASI, Bahia, 2017



*Degenerative diseases – Parkinson, Alzheimer, Retinitis pigmentosa and SAH; Metabolic diseases – diabetes.

Figure 2 presents the activities in which caregivers feel more difficult and with greater degree of physical demands in the aid of fragile elderly. Highlight for displacement assistance activities (58.5%), bath (34.15%) and transfers (24.4%). Musculoskeletal symptoms presented a higher frequency in the lumbar spine (46.3%) followed by the dorsal spine with 26.8%, while the elbow had the lowest impact (2.4%). None of the symptoms reported by caregivers prevented them from carrying out their daily work (Figure 3).

Figure 2. Distribution of physical overload in care activities to the frail elderly reported by caregivers

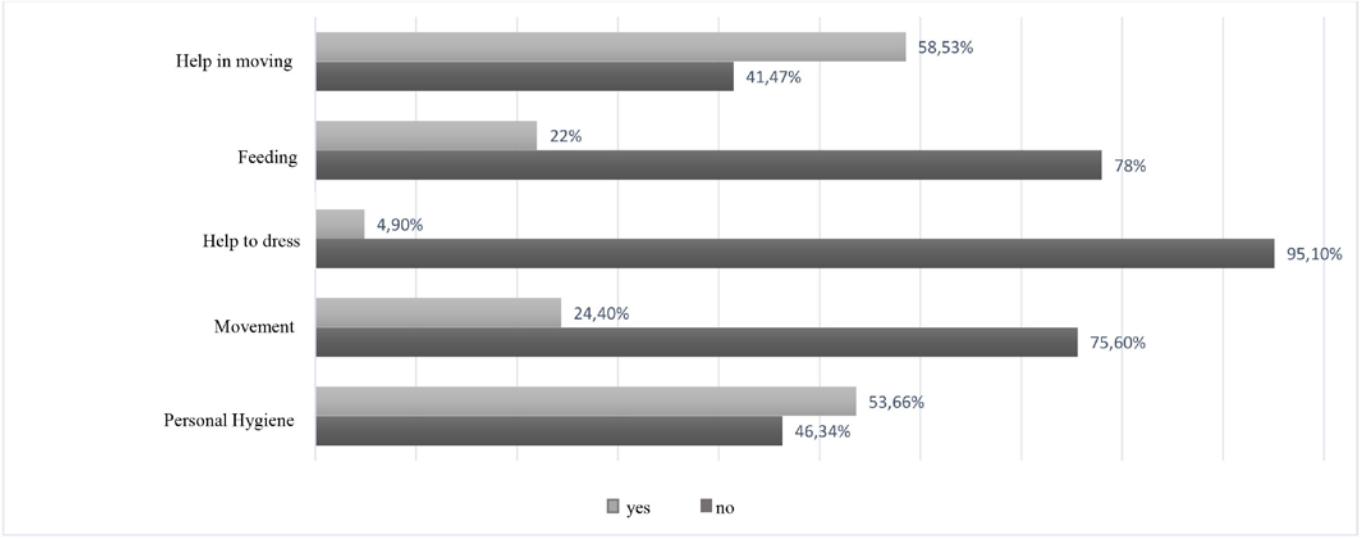
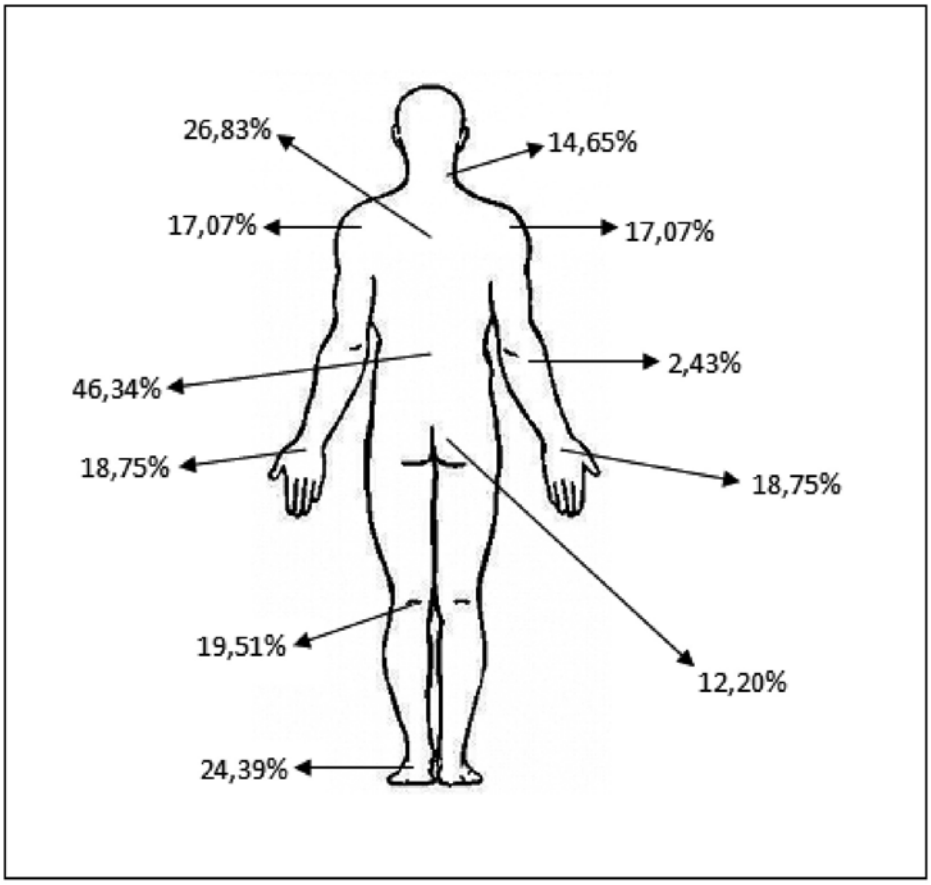


Figure 3. Musculoskeletal symptoms among caregivers of the elderly in CREASI, Bahia, Brazil, 2017



Discussion

The study made it possible to trace the profile of the activities carried out by the elderly caregiver and the complaints due to their health. The majority of participants were female and had a mean age of 48 years. The woman is up to date, a woman is still seen as a familiar figure available for the care of the elderly. Although they carry out work activities for life, as women end up taking on care-related tasks that ultimately criticize their health.

The value generated was higher and higher than the average of the third age, considering the highest levels of exercise of the national activities and performing every day of the week. In addition, most people, who can generate an even greater degree of household chores.

Although most caregivers participate in the age group between 17 and 45 years old, there is a proportion of elderly caregivers (22%) taking care of others. Older caregivers are more likely to develop health problems. This involves the changes in the care of care, because the risk must be shared between the Québec attire and the quality of care. In the present study, the proportion between caregivers and married did not add expressive expression. No study of Fuhrmanna et al.[22], the upper associated with the upper progresses, and the upper associated with overloading, in the upper care to elderly, the metropolitan system and their routine.

As to the degree of kinship, the majority of the population was composed of sons and daughters. This result is equivalent to that found in the article by Gonçalves et al[22], in which 50% of the population was composed of daughters. In this study, there was a minimal difference in relation to the place where the elderly were cared for, the proportion was slightly higher in the caregiver's home than in the elderly's own home. Being a caregiver was the main occupation, because of this many were unemployed because they had little time to administer another job. The responsibilities acquired with the caregiver activity are high, in some cases, it restricts the caregiver to perform other work, being included in an integral way in the care with the elderly[2].

Most of the population reported satisfaction in developing the care task for the elderly. A study carried out with professional caregivers showed that the majority of the participants demonstrated satisfaction with the work and that the choice of this profession was due to interest in knowing the reality of the elderly, by affinity with the area and the need for employment[23]. Among the caregivers, only 12.2% had higher education. The level of schooling becomes an important factor for caring for the elderly, since lack of understanding, knowledge of the clinical conditions and difficulties with care contributes to the inefficiency of care, generating a threat to the physical limits of frail elderly individuals or not meet all needs[24].

Given this context, it is important to have a good qualification of the elderly caregiver so that there is efficiency during work[5]. In the present study, most of the participants did not have a training course for the care of frail elderly people. This fact is recurrent, even experienced caregivers do not report courses or recognize guidelines for exercising care[7].

In the literature, the volume of studies on informal caregivers is higher than those who investigated formal caregivers6. In this study, the majority of the population was composed of informal caregivers. Thus, studies indicate that caregivers of the elderly are seen as an extension of family relationships, that is, a form of satisfaction and gratitude for the care received in childhood, not being considered a social occupation[25].

The most frequent time of care found in this population was up to 12 months and more than 50% cared for the elderly more than 12 hours a day and throughout the entire week. Some articles describe caregivers who exercised care in the period from months to years[13]. In addition to the time, the number of hours and the frequency in the week can also interfere with the health of the caregiver. An extensive daily workload performed without rest periods associated with long periods of care may contribute to the appearance or aggravation of already existing health problems[26].

Carer overload may be associated with the type of disease severity that the elderly have. Chronic degenerative diseases were the most prevalent among the elderly, followed by neurological diseases. A study with neurological patients demonstrated that the level of overload depends on the degree of incapacity of the patient[27]. Both the diseases of the elderly and the caregivers can interfere in the health of this population, aggravating or interfering in the execution of the care.

The caregivers of elderly people with Alzheimer's disease study participants reported as main difficulties the activities of personal hygiene, feeding and bathing. and reported worsening of some existing musculoskeletal problems when performing such activities[28]. Hygiene and feeding are activities that are considered to be the ones that cause disorders during the care of the elderly[22]. However, in this study, the activities in which the caregivers reported greater difficulty in assisting the elderly were displacement, bathing and transfers. Unpreparedness when performing the various care activities can cause health problems to the caregiver and interfere in the form of care[11].

Final Considerations

The Nordic questionnaire showed that the highest frequency of pain is between the lumbar and dorsal spine, without generating incapacity to work. Another study with caregivers revealed that 80% of the participants reported feeling lower back pain and 20% felt this pain daily. Lumbar pain may be associated with activities performed during the day, such as activities performed in the kitchen, household activities and picking up objects in high places, and movements in the positions of flexion and extension[29]. This same study described that the symptoms of low back pain are more prevalent in caregivers with longer working hours. Column problems can arise when more than one activity is performed by a person, that is, a consequence of overload due to overwork. In addition, the study further suggests that healthy behaviors and the ability to care may serve as prevention to avoid these pains[29]. The results of the studies by Bardak et al[30] and Yeung[31] showed that there is a relationship between low back pain in elderly caregivers and the duration of care and the severity of clinical conditions in the elderly. The two studies found no difference between the caregivers who worked at home, in a professional manner and both.

It is worth mentioning that the caregiver activity can generate physical problems in the body, but it is possible that these musculoskeletal disorders are caused by associated factors and not only to an isolated activity. Household work and family life itself can overwhelm as well as out-of-home jobs. Thus, investing in health education strategies and promoting care for both the caregiver and the elderly is necessary. Health professionals need to recognize the obstacles of the caregiver in the daily life to stimulate the development of support groups and home visits in which they could share information to improve the act of caring.

Although the number of caregivers is limited the profile found in this population is similar to that verified in other studies and in the reality of the service analyzed. Further studies are needed to broaden the observations, perform analyzes with specific health outcomes, and correlate with working conditions.

The daily caregiver's routine, most of the time, is composed of an excess of activities that can be associated with painful symptoms and pre-existing illnesses. Despite the limitations of the present study, it was possible to identify the profile of caregivers of fragile elderly. The physical complaints associated with the domestic overload found among caregivers indicates a potential risk to the care provided and to the health of the caregiver. The low professional qualification present among caregivers of elderly people with functional dependency indicates the need for investment in formal or informal care, with the aim of increasing the effectiveness of the care provided and the minimum conditions necessary for care of the elderly vulnerable.

Author contributions

Vaz L participated in the study design, data collection and analysis of the results and critical review of the text. Bernardes K participated in the study design, analysis and critical review of the text. Ferraz D participated in the critical review of the text and supervision.

Competing interests

No financial, legal or political competing interests with third parties (government, commercial, private foundation, etc.) were disclosed for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.).

References

1. Gratão ACM, Talmelli LFS, Figueiredo LC, Rosset I, Freitas CP, Rodrigues RAP. Dependência funcional de idosos e a sobrecarga do cuidador. Rev Esc Enferm USP. 2013;47(1):137-44. doi: 10.1590/S0080-62342013000100017

2. Bauab JP, Emmel MLG. Mudanças no cotidiano de cuidadores de idosos em processo demencial. Rev Bras Geriatr Gerontol. 2014;17(2):339-352. doi: 10.1590/S1809-98232014000200011

3. Loureiro LSN, Fernandes MGM, Marques S, Nóbrega MML, Rodrigues RAP. Sobrecarga de cuidadores familiares de idosos: prevalência e associação com características do idoso e do cuidador. Rev Esc Enferm USP. 2013;47(5):1133-40. doi: 10.1590/S0080-623420130000500017

4.Araujo JS, Vidal GM, Brito FN, Gonçalves DCA, Leite DKM, Dutra CDT et al. Perfil dos cuidadores e as dificuldades enfrentadas no cuidado ao idoso, em Ananindeua, PA. Rev Bras Geriatr Gerontol. 2013;16(1):149-158. doi: 10.1590/S1809-98232013000100015

5. Gutierrez LLP, Fernandes NRM, Mascarenhas M. Caracterização de cuidadores de idosos da região metropolitana de Porto Alegre (RS): perfil do cuidado. Saúde Debate. 2017;41(114):885-898. doi: 10.1590/0103-1104201711417

6. Cruz DT, Vieira MT, Bastos RR, Leite ICG. Factors associated with frailty in a community-dwelling population of older adults. Rev Saude Publica. 2017;51(106):1-13. doi: 10.11606/s1518-8787.2017051007098

7. Stackfleth R, Diniz MA, Fhon JRS, Vendruscolo TRP, Fabrício-Whebe SCC, Marques S et al. Sobrecarga de trabalho em cuidadores de idosos fragilizados que vivem no domicílio. Acta Paul Enferm. 2012;25(5):768-74. doi: 10.1590/S0103-21002012000500019

8. Costa ECS, Pereira PD, Miranda RAP, Bastos VHV, Machado DCD. Sobrecarga física e mental dos cuidadores de pacientes em atendimento fisioterapêutico domiciliar das estratégias de saúde da família de Diamantina (MG). Revista Baiana de Saúde Pública. 2013;37(1):133-150. doi: 10.5020/18061230.2017.p179

9. Miranda VS, Carvalho VBF, Machado LAC, Dias JMD. Prevalence of chronic musculoskeletal disorders in elderly Brazilians: a systematic review of the literature. BMC Musculoskelet Disord. 2012;13(82):1-11. doi: 10.1186/1471-2474-13-82

10. Moraes EN, Lanna FM, Santos RR, Bicalho MAC, Machado CJ, Romero DE. A new proposital for the clinical – fuctional categorization of the elderly: visual scale of frailty (vs-frailty). Rev Saúde Pública. 2016;50(81):1-10.

11. Pinho OS, Araújo TM. Associação entre sobrecarga doméstica e transtornos mentais comuns em mulheres. Rev Bras Epidemiol. 2012;15(3):560-72. doi: 10.1590/S1415-790X2012000300010

12. Gratão ACM, Vale FAC, Roriz-Cruz M, Haas VJ, Lange C, Talmelli LFS et al. The demands of family caregivers of elderly individuals with dementia. Rev Esc Enferm USP. 2010;44(4):873-80. doi: 10.1590/S0080-62342010000400003

13. Santos-Orlandi AA, Brito TRP, Ottaviani AC, Rossetti ES, Zazzetta MS, Pavarini SCL. Idosos que cuidam de idosos: um estudo sobre a Síndrome da Fragilidade. Rev Bras Enferm. 2017;70(4):856-64. doi: 10.1590/0034-7167-2016-0474

14. Fuhrmanna AC, Bierhalsb CCBK, Santos NO, Paskulind LMG. Associação entre a capacidade funcional de idosos dependentes e a sobrecarga do cuidador familiar. Rev Gaúcha Enferm. 2015;36(1):14-20. doi: 10.1590/1983-1447.2015.01.49163

15. Gonçalves LTH, Leite MT, Hildebrandt LM, Bisogno SC, Biasuz S, Falcade BL. Convívio e cuidado familiar na quarta idade: qualidade de vida de idosos e seus cuidadores. Rev Bras Geriatr Gerontol. 2013;16(2):315-325. doi: 10.1590/S1809-98232013000200011

16. Sampaio AMO, Rodrigues FN, Pereira VG, Rodrigues SM, Dias CA. Cuidadores de idosos: percepção sobre o envelhecimento e sua influência sobre o ato de cuidar. Revista Estudos e Pesquisas Psicologia. 2011;11(2).

17. Oliveira DC, D'Elboux MJ. Estudos nacionais sobre cuidadores familiares de idosos: revisão integrativa. Rev Bras Enferm. 2012;65(5):829-38. doi: 10.1590/S0034-71672012000500017

18. Hedler CH, Santos MJS, Faleiros VP, Almeida MAA. Representação social do cuidado e do cuidador familiar do idoso. R Katál. 2016;19(1):143-153. doi: 10.1590/1414-49802016.00100015

19. Cruz MN, Hamdan AC. O impacto da doença de Alzheimer no cuidador. Psicol Estud. 2008;13(2):223-9. doi: 10.1590/S1413-73722008000200004

20. Mendoza-Suarez G. Síndrome de sobrecarga em familiares encargados del cuidado de pacientes com enfermedad neurológica crónica. Rev Soc Peru Med Interna. 2014;27(1):12-18.

21. Kucmanski LS, Zenevicz L, Geremia DS, Madureira VSF, Silva TG, Souza SS. Doença de Alzheimer: desafios enfrentados pelo cuidador no cotidiano familiar. Rev Bras Geriatr Gerontol. 2016;19(6):1022-1029. doi: 10.1590/1981-22562016019.150162

22. Suzuki K, Tamakoshi K, Sakakibara H. Caregiving activities closely associated with the development of low-back pain among female family caregivers. J Clin Nur. 2016;25(15-16):2156-67.

23. Bardak AN, Erhan B, Gunduz B. Low back pain among caregivers of spinal cord injured patients. J Rehabil Med. 2012;44(10):858-861. doi: 10.2340/16501977-1043

24. Vieira CPB, Fialho AVM, Freitas CHA, Jorge MSB. Praticas do cuidador informal do idoso no domicilio. Rev Bras Enferm. 2011;64(3):570-9. doi: 10.1590/S0034-71672011000300023

25. Souza S, Camacho ACLF, Joaquim FL, Santo FHE. O planejamento do autocuidado para o cuidador de idosos: revisão integrativa. Rev enferm UFPE. 2016;10(5):1866-72. doi: 10.5205/reuol.9003-78704-1-SM.1005201636