

Frailty, depression, and quality of life: a study with elderly caregivers

Fragilidade, depressão e qualidade de vida: um estudo com idosos cuidadores

Fragilidad, depresión y calidad de vida: un estudio con cuidadores ancianos

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ABSTRACT

Objective: to analyze the relationship between frailty, depressive symptoms, and quality of life of elderly caregivers of other elderly living in high social vulnerability. **Methods:** a descriptive, correlational and cross-sectional study conducted with 40 elderly caregivers. A questionnaire to characterize elderly caregivers, the Fried frailty phenotype, the Geriatric Depression Scale (to screen depressive symptoms) and the Short-Form 6 Dimension (to assess quality of life) were used. For data analysis, Student's t-test, ANOVA, Pearson's χ^2 and Fisher's exact test were used. **Results:** most were pre-frail (52.5%) and had no evidence of depressive symptoms (57.5%). They presented, on average, a score of 0.76 (± 0.1) in relation to quality of life. Statistical significance was observed between the average scores of quality of life with depressive symptoms ($p=0.012$) and frailty level ($p=0.004$). **Conclusion:** frail elderly caregivers with depressive symptoms had a worse perception of quality of life.

Descriptors: Caregivers; Frail Elderly; Depression; Quality of Life; Geriatric Nursing.

RESUMO

Objetivo: analisar a relação entre fragilidade, sintomas depressivos e qualidade de vida de idosos cuidadores de outros idosos inseridos em contexto de alta vulnerabilidade social. **Métodos:** estudo descritivo, correlacional e transversal, realizado com 40 idosos cuidadores. Foram aplicados: questionário para caracterização do idoso cuidador, fenótipo de fragilidade de Fried, Escala de Depressão Geriátrica (rastrear sintomas depressivos) e Questionário *Short-Form 6 Dimensions* (avaliar qualidade de vida). Na análise dos dados, utilizou-se Teste t de Student, ANOVA, χ^2 de Pearson e Exato de Fisher. **Resultados:** a maioria dos idosos cuidadores estavam pré-frágeis (52,5%) e sem indícios de sintomas depressivos (57,5%). Apresentaram, em média, um escore de 0,76 ($\pm 0,1$) em relação à qualidade de vida. Observou-se significância estatística entre os escores médios de qualidade de vida com sintomas depressivos ($p=0,012$) e nível de fragilidade ($p=0,004$). **Conclusão:** idosos cuidadores frágeis e com sintomas depressivos apresentaram pior percepção sobre a qualidade de vida.

Descritores: Cuidadores; Idoso Fragilizado; Depressão; Qualidade de Vida; Enfermagem Geriátrica.

RESUMEN

Objetivo: analizar la relación entre fragilidad, síntomas depresivos y calidad de vida de cuidadores ancianos de otras personas ancianas insertadas en un contexto de alta vulnerabilidad social. **Métodos:** estudio descriptivo, correlacional y transversal, realizado con 40 cuidadores ancianos. Se utilizó un cuestionario para caracterizar al cuidador anciano, el fenotipo de fragilidad de Fried, la Escala de Depresión Geriátrica (seguimiento de los síntomas depresivos) y el cuestionario Short-Form 6 Dimensions (evaluación de la calidad de vida). En el análisis de datos, se utilizaron la prueba t de Student, ANOVA, χ^2 de Pearson y la prueba exacta de Fisher. **Resultados:** la mayoría de los cuidadores ancianos eran pre-frágiles (52.5%) y sin evidencia de síntomas depresivos (57.5%). Presentaron, en promedio, una puntuación de 0.76 (± 0.1) en relación con la calidad de vida. Se observó significación estadística entre los puntajes promedio de calidad de vida con síntomas depresivos ($p=0.012$) y nivel de fragilidad ($p=0.004$). **Conclusión:** los cuidadores ancianos frágiles con síntomas depresivos tenían una peor percepción de la calidad de vida.

Descritores: Cuidadores; Anciano Frágil; Depresión; Calidad de Vida; Enfermería Geriátrica.

INTRODUCTION

Due to greater longevity, elderly individuals may show a decline in their functional performance, thus causing a condition of greater dependence and consequent need for care⁽¹⁾.

In Brazil, due to the new family arrangements and the increasing number of elderly people, there is a higher prevalence of elderly people caring for other more dependent elderly people⁽²⁾. Researchers point out that about 16% of caregivers are between 61 and 70 years old⁽³⁾. Elderly caregivers living in settings of high social vulnerability are more exposed to stressors and may be affected by multimorbidity⁽⁴⁾.

Frailty⁽⁵⁻⁶⁾ and depressive symptom⁽⁷⁾ in elderly individuals is high and can negatively affect their quality of life and well-being⁽⁸⁾. When referring to contexts of high social vulnerability, this prevalence may be even higher⁽⁹⁾. Given these conditions and countless chores present in an exhausting routine, there can be a direct impact both on the health and quality of life of caregivers and on care⁽¹⁰⁾.

Clinical studies that sought the relationship between frailty and depressive symptoms in relation to elderly individuals were found in the literature^(6,11). A survey carried out in Minas Gerais with 360 community elderly people aimed to know the prevalence and factors associated with frailty. The authors identified that 47.2% were fragile. Depressive symptoms was a variable associated with frailty⁽⁶⁾.

A study was carried out with 721 elderly people aged 60 and over from Singapore to estimate the prevalence of frailty among elderly community members and to investigate the association between frailty level and depressive symptoms. Frailty prevalence in the population studied was 24.5%. As elderly individuals became fragile, they reported depressive symptoms. The authors concluded that frailty level was independently associated with depressive symptoms among elderly community members⁽¹¹⁾.

Fragile elderly people with depressive symptoms can have a negative impact on well-being and quality of life⁽⁸⁾. A study with 374 elderly people aged 75 and over was carried out in the Netherlands to assess the quality of life of frail and non-frail elderly people. The results showed that frail elderly people experienced lower quality of life, on average, than non-frail elderly people. The components of frailty and depressive symptoms were associated with a worse quality of life⁽¹²⁾.

Considering the impact of frailty syndrome and depressive symptoms on quality of life, as well as the increase in spending on health services resulting from adverse events, it is necessary to investigate this relationship. Moreover, it is worth mentioning that no studies were found that investigated the relationship of these variables within elderly caregivers inserted in a setting of high social vulnerability, which justifies the academic relevance of this research.

As a social relevance, it is noteworthy that the findings of this research can raise discussions in the scope of public policies aimed at elderly caregivers and intensify the interest of researchers in investigating the insights related to the caregivers' health in vulnerable contexts in primary care. It is known that life situation, social engagement and the environment are social factors that can influence health issues⁽¹³⁾. It is worth mentioning that considering the

Brazilian life expectancy and the international recommendations of aging in the community, care tends to be carried out at home and caregivers have to be near individuals cared for⁽¹⁴⁾.

The innovation of this research is in the understanding of how frailty, depression, and quality of life present themselves in elderly caregivers in a vulnerable environment. It is known that social determinants can aggravate health conditions⁽¹³⁾. It is believed that these results may assist health professionals in directing an immediate or long-term care plan aimed at the needs of these elderly caregivers in primary health care, which is the baseline in the health system.

OBJECTIVE

This study aims to analyze the relationship between frailty, depressive symptoms, and quality of life of elderly caregivers of other elderly individuals living in high social vulnerability.

METHODS

Ethical aspects

The ethical aspects disciplined by Resolution 466/2012 regulated by the Brazilian National Health Council (*Conselho Nacional de Saúde*) were observed and respected. This study was approved by the Research Ethics Committee on 03/13/2018.

Design, period, and place of study

This is a descriptive, correlational and cross-sectional study based on quantitative research assumptions. Its structure followed the guidelines present in STROBE (Strengthening the Reporting of Observational Studies in Epidemiology).

This study belongs to the research entitled "*Ferramenta para monitoramento de níveis de fragilidade e fatores associados em idosos atendidos pelo Núcleo de Apoio à Saúde da Família (NASF) no município de São Carlos*". This research assessed 304 elderly people. The individuals assessed belong to the five Family Health Units (FHU) in the "Cidade Aracy" Regional Health Administration (*Administração Regional de Saúde*, abbreviated ARES) in the municipality of São Carlos, which presents the greatest social vulnerability⁽⁹⁾.

Data collection took place between January and October 2015, by previously trained undergraduate and graduate students and was performed in a single session, lasting approximately 90 minutes. Initially, contact was made with the five FHU so that community health workers could provide a list with the names and addresses of all elderly. Eight hundred elderly people registered in these Units were identified. Then, sample calculation was performed considering age, which was divided into age groups (60-64, 65-69, 70-74, 75-79 and 80 years and older) and sex (male and female). For sample calculation, the alpha significance level was set at 5% ($\alpha=0.05$) and the sample error at 5% ($d=0.05$). Due to the absence of preliminary information on estimates of the population of interest, an estimate of 50% was used ($p=0.50$). Thus, the calculation performed totaled 304 elderly people. The households were identified and a home visit was carried out in order to inform them about the objective of the research and

to invite them to participate in the study. In case of acceptance, a new home visit was scheduled to apply the data collection protocol. Of the 304 elderly people assessed, 40 were caregivers.

This study was developed from data belonging to the database of that research previously mentioned.

Sample, and inclusion and exclusion criteria

In relation to the large study, elderly people aged 60 years and older, registered in the FHUs of "Cidade Aracy" ARES, assisted by NASF (*Núcleo de Apoio à Saúde da Família* - Family Health Support Center), able to understand and communicate verbally, who agreed to participate in the study and signed the Informed Consent Form were included. Elderly people with diseases or sequel that prevent tests (severe motor deficits, hearing or aphasia), wheelchair users or those with terminal illnesses were excluded.

Elderly individuals in the database who were primary caregivers of other elderly, with a minimum age of 60 years old, comprised the sample of this study. The exclusion criterion used was not to live in the same house as elderly individuals cared for. Considering these criteria, the sample was composed of 40 elderly caregivers.

Study protocol

The main study's data collection took place in a single session and started after consent of elderly participants by reading and signing the Informed Consent Form.

Sociodemographic and health data were collected through a questionnaire previously built by the researchers with information on sex, age, color, marital status, education, family arrangement, current job, retirement, income, health insurance, subjective health assessment, presence of comorbidity, smoking, and alcoholism.

The phenotype proposed by Fried⁽¹⁵⁾ was adopted to assess frailty. The operational definition encompasses five elements: 1) Unintentional weight loss: the following question was asked to caregivers: "In the past twelve months, do you think you have lost weight without going on diet?". If so, if that weight loss was 4.5 kg or more or 5% of body weight in the previous year, the elderly individual scored on this criterion; 2) Fatigue: assessed through self-report evoked by two questions from the Center for Epidemiological Studies - Depression (CES-D) (scale for screening depression): (7 - How often, in the past week, did you feel that everything you did required a great deal of effort? and 20 - How often, in the past week, did you feel that you would not be able to carry on with your things?)⁽¹⁶⁾. Elderly individuals who answered "always" or "most of the time" to either of these two questions scored on this criterion; 3) Low handgrip strength: it was measured with a portable hydraulic dynamometer in the dominant hand. Three consecutive measurements of handgrip strength were performed, using the arithmetic mean. To fulfill the criterion, the result was adjusted according to sex and Body Mass Index, according to Fried⁽¹⁵⁾; 4) Low level of caloric expenditure: adapted item. It was assessed through self-report based on the question "Do you think you do less physical activity than you did twelve months ago?" If so, the elderly individual scored on this criterion; 5) Slow gait: indicated by the average time spent traveling 4.6 m distance, with adjustments according to sex and

height, according to Fried⁽¹⁵⁾. Three gait speed measurements were made, using the arithmetic mean. Three or more of the five characteristics of the phenotype indicates frail elderly individuals; one or two means that they are pre-frail state; and none of these characteristics indicate a robust or non-frail elderly individuals⁽¹⁵⁾.

The Geriatric Depression Scale, 15-item version, was used to screen depressive symptoms. At the end, the sum of the score obtained and its interpretation was performed. Results between zero and five points mean absence of depressive symptoms; from six to 15 points, indicate presence of depression⁽¹⁷⁾.

The Short-Form 6 Dimensions (SF-6D Brazil) was used to assess health-related quality of life. The only SF-6D score ranges from zero to one, with zero equal to worst health-related quality of life, and one, best perception of quality of life⁽¹⁸⁾.

Analysis of results, and statistics

In the descriptive data analysis, distributions of frequencies, means and standard deviations were estimated for the study's continuous variables. For categorical variables, proportions were estimated. Differences between groups were estimated using Fisher's exact and Pearson's χ^2 tests. The Kolmogorov-Smirnov test was used to prove the normality of SF-6D. To compare means, Student's t-test and ANOVA were used. Such statistical tests are recommended to test the statistical difference between means and proportions. The tests were chosen due to the sample showing normal distribution⁽¹⁹⁾. The level of significance was set at 5%. All analyzes were performed using Stata, version 13.0.

RESULTS

The sample of this study consisted of 40 participants. There was a predominance of female caregivers (67.5%), aged between 60 and 69 years (55.0%), white (45.0%), married (87.5%) and with education complete primary school (40.0%). Most lived with their spouse (92.5%), did not work (82.5%) and was retired (72.5%). They had a reasonable perception of health (47.5%), had no health insurance (90.0%) and denied smoking (42.5%) and alcoholism (90.0%).

Table 1 shows the distribution of elderly caregivers according to predominant sociodemographic and health aspects.

The most frequently reported diseases by elderly caregivers were chronic obstructive pulmonary disease (92.5%), stroke (90.0%), cancer (90.0%), anemia (82.5%), diabetes (77, 5%), arthritis (67.5%), circulatory diseases (67.5%), and hypertension (62.5%).

Table 2 shows the distribution of elderly caregivers according to the assessed frailty criteria. Most were pre-frail (52.5%). As for the frailty criteria, 62.5% scored on reduced physical activity, 57.5% for low handgrip strength, 57.5% for slow gait, 52.5% for unintentional weight loss, and 35.0% for fatigue.

According to the Geriatric Depression Scale, 57.5% of elderly caregivers did not show evidence of depressive symptoms. They had a mean of 4.5 points (SD=2.8), a median of 4.0 points and a minimum of zero and a maximum of 9.0 on the scale score.

Concerning quality of life (SF-6D), elderly caregivers had, on average, a score of 0.76 (SD=0.1). Median was 0.77, with a minimum of 0.4 and a maximum of 1.0.

Table 1 – Distribution of elderly caregivers according to predominant sociodemographic and health aspects, São Carlos, São Paulo, Brazil, 2015 (n=40)

Variable	Category	n	%	Mean	SD	Median	Min-Max
Sex	Female	27	67.5				
Age (years)				70.1	8.2	68.5	60-98
Age group	60-69 years old	22	55.0				
Color	White	18	45.0				
Marital status	Married	35	87.5				
Years of study				1.8	2.3	1.0	0-12
Education	Elementary school	16	40.0				
Family arrangement	Living with a partner	37	92.5				
Currently working	No	33	82.5				
Retirement	Yes	29	72.5				
Income (<i>reais</i> *)				781.2	382.0	780.0	0-2000.0
Health insurance	No	36	90.0				
Perception of health	Adequate	19	47.5				
Smoking	Never smoked	17	42.5				
Ethics	No	36	90.0				

Note: SD - standard deviation; Min - minimum value; Max - maximum value; *reais is the Brazilian currency; 1 real corresponds to about 5.21 US dollars).

Table 2 – Distribution of elderly caregivers according to frailty criteria, São Carlos, São Paulo, Brazil, 2015 (n=40)

Variables	Categories	n	(%)*
Unintentional weight loss	No	16	40.0
	Yes	21	52.5
Reduced physical activity	No	14	35.0
	Yes	25	62.5
Fatigue	No	26	65.0
	Yes	14	35.0
Low handgrip strength	No	17	42.5
	Yes	23	57.5
Slow gait	No	17	42.5
	Yes	23	57.5
Fragility level	Non-frail	17	42.5
	Pre-frail	21	52.5
	Frail	2	5.0

Note: *The sum of the percentage frequencies that did not reach 100.0% is due to the fact that some variables were not answered by all elderly individuals.

Table 3 – Distribution of elderly caregivers according to mood and frailty, São Carlos, São Paulo, Brazil, 2015 (n=40)

Frailty	Depressive Symptoms		p value
	No n (%)	Yes n (%)	
Frailty levels			
Non-frail	12 (52.2)	5 (29.4)	0.132 ¹
Frail	11 (47.8)	12 (70.6)	
Components of frailty			
Unintentional weight loss			
No	15 (75.0)	3 (35.3)	0.017 ²
Yes	5 (25.0)	11 (64.7)	
Reduced physical activity			
No	11 (47.8)	3 (18.7)	0.062 ²
Yes	12 (52.2)	13 (81.3)	
Fatigue			
No	18 (78.3)	8 (47.1)	0.044 ¹
Yes	5 (21.7)	9 (52.9)	
Low handgrip strength			
No	10 (43.5)	7 (41.2)	0.571 ¹
Yes	13 (56.5)	10 (58.2)	
Slow gait			
No	9 (39.1)	8 (47.1)	0.429 ¹
Yes	14 (60.9)	9 (52.9)	

Note: ¹χ² de Pearson; ²Exato de Fisher.

Table 4 – Mean quality of life score according to frailty and depressive symptoms, São Carlos, São Paulo, Brazil, 2015 (n=40)

Variable	Categories	Mean score (SD)	p value
Depressive symptoms	Without depressive symptoms	0.8 (0.1)	0.012*
	With depressive symptoms	0.7 (0.1)	
Frailty	Non-frail	1.0 (0.0)	0.004**
	Pre-frail	0.8 (0.1)	
	Frail	0.7 (0.1)	
Unintentional weight loss	No	0.8 (0.1)	0.103*
	Yes	0.7 (0.1)	
Reduced physical activity	No	0.8 (0.1)	0.015*
	Yes	0.7 (0.1)	
Fatigue	No	0.8 (0.1)	0.318*
	Yes	0.7 (0.2)	
Low handgrip strength	No	0.8 (0.1)	0.07*
	Yes	0.7 (0.1)	
Slow gait	No	0.8 (0.1)	0.447*
	Yes	0.7 (0.1)	

Note: * Student's t-test; **ANOVA; SD - standard deviation.

Table 3 shows the distribution of elderly caregivers according to mood and frailty. Table 3 shows that 70.6% of frail elderly people had depressive symptoms. About 64.7% of the elderly who scored on weight loss, 81.3% on reduced physical activity criterion, 52.9% on fatigue, 58.2% on low handgrip strength and 52.9% on slow gait criteria showed depressive symptoms. There was statistical significance only between depressive symptoms and unintentional weight loss (p=0.017) and fatigue (p=0.044).

Table 4 shows the mean SF-6D score (quality of life) according to frailty and depressive symptoms. Statistical significance was observed between the mean scores of SF-6D (quality of life) with depressive symptoms (p=0.012), frailty level (p=0.004) and reduced physical activity (p=0.015). It is noted that frail elderly caregivers, with depressive symptoms and who scored on the reduced physical activity criterion, presented worse quality of life scores, when compared to non-frail elderly people, without depressive symptoms and who did not score for that criterion (Table 4).

DISCUSSION

As for the frailty syndrome, most elderly caregivers were pre-frail (52.5%). Similar results were found in a survey conducted with elderly caregivers in the city of Campinas (SP). Of the 148 respondents, 46.0% were pre-fragile according to the criteria of the phenotype proposed by Linda Fried⁽²⁰⁾.

The high percentage of pre-frail elderly people shows the need and importance of carrying out interventions aimed at preventing worsened frailty syndrome, to avoid adverse outcomes and improve quality of life⁽²¹⁾. Factors such as lack of social support, low schooling and less access to health services are conditions present in the context of social vulnerability, which can cause worsening health conditions and, consequently, make them weakened⁽²²⁾. Worsened physical health is related to lower levels of psychological well-being, decreased positive affection, reduced satisfaction of individuals who provide care and, consequently, worsened quality of life⁽²³⁾.

In this study, 62.5% of the elderly caregivers reported reduced physical activity. Similar results were identified in an investigation carried out with 148 elderly caregivers in the city of Campinas (SP), which aimed to assess the multimorbidity, perceived overload and frailty of all interviewees. As a result, they obtained that 42.5% of the elderly caregivers also scored on reduced physical activity⁽²⁰⁾.

Scholars point out that reduced mobility, muscle weakness, postural instability and sarcopenia are factors that contribute to declined physical activity by elderly individuals⁽²¹⁾. On the other hand, care for elderly individuals can be very demanding of caregivers, who do not have free time to dedicate themselves to other activities, which can develop depression and worsen quality of life⁽²⁴⁾.

Aerobic and resistance physical exercise is recommended to prevent the onset and progression of the frailty syndrome as it increases the muscle and bone mass of individuals regardless of age. Furthermore, it contributes beneficially to health conditions and perception of quality of life by the elderly population and, consequently, to elderly caregivers⁽²⁵⁻²⁶⁾.

Although most of participants in this study did not show signs of depressive symptoms (57.5%), it is necessary to be concerned about the other elderly caregivers who presented them (42.5%). International researchers have revealed that elderly caregivers report having more depressive symptoms compared to young and elderly caregivers who are not caregivers⁽²⁷⁾.

A recent literature review was carried out with the aim of analyzing publications related to the assessment of depressive symptoms in caregivers of elderly individuals. Seventeen articles were analyzed, and the results showed that the majority of elderly caregivers had more depressive symptoms than elderly non-caregivers. The authors concluded that the act of caring can generate important emotional consequences when there is no adequate support⁽²⁸⁾.

The context in which these elderly caregivers are inserted may explain the presence of such symptoms. When performing the task of caring without the support of other family members, elderly caregivers feel lonely, neglecting their own health and do not have time for recreational and leisure activities, factors that can contribute to the onset of depressive symptoms⁽²⁴⁾. Moreover, the social context characterized as vulnerable expresses a condition of people who are in the process of social exclusion and which involves precarious economic, cultural and social aspects⁽²⁹⁾.

The literature points to other factors that may be associated with the onset of depressive symptoms among elderly caregivers, such as overload, the aging process itself, physical impairment and lack of support to provide care. As time goes by, feelings of inability to perform actions as they may have arisen in the past, creating anguish⁽³⁰⁾.

No statistically significant difference was identified between the level of frailty and depressive symptoms; this is in line with the findings of the national⁽³¹⁾ and international^(7,32) literature, which indicate that depression can generate physiological conditions for the onset or worsened frailty syndrome. Perhaps a possible explanation for this is the small sample size.

There was statistical significance between depressive symptoms and unintentional weight loss ($p=0.017$) and fatigue ($p=0.044$). Elderly people with depressive symptoms have higher percentages of unintentional weight loss and fatigue, when compared to elderly people without depressive symptoms.

Elderly people with depressive symptoms may experience hunger and chronic malnutrition, which increases the risks for weight loss⁽³³⁻³⁴⁾. Depressive symptoms are related to feelings of sadness, social isolation, fatigue and anhedonia, which can contribute to worsening functional performance and reduced physical activity⁽³⁵⁾. Researchers affirm that the appearance of fatigue is common in elderly people considered as not active. Physical activity can improve functional capacity, making elderly individuals feel physically well and not showing fatigue⁽³⁶⁾. This explanation is in line with the sample profile of this study, considering that 62.5% of the elderly caregivers reported reduced physical activity.

Concerning quality of life, elderly individuals had a score of 0.76, and the closer to 1.0, the better the quality of life. It can be said that they have a positive outlook on their quality of life. Such a positive perception was also found in the international literature⁽³⁷⁾. A study carried out in Spain, with 92 primary caregivers of dependent elderly family members, found that 53.3% perceived their quality of life as "good" or "very good"⁽³⁷⁾.

Researchers state that the caregivers' physical health and independence to perform activities of daily living are variables that strongly influence self-perception of quality of life. Caregivers with better physical and independent health demonstrate higher levels of well-being and better quality of life⁽²³⁾. Younger older people are less exposed to disabilities related to chronic diseases. Therefore, they manage to remain independent for a longer time, a positive fact for a better perception of quality of life. A positive quality of life can also be related to personal resilience resources, i.e., the use of proper strategies to deal with stressors⁽³⁸⁾.

A statistically significant difference was identified between quality of life and depressive symptoms ($p=0.012$), i.e., elderly caregivers with depressive symptoms had a lower average quality of life score when compared to elderly caregivers without depressive symptoms.

An investigation was carried out in the city of Teresina, state of Piauí, with family caregivers of dependent elderly people, in order to assess the quality of life of these caregivers. In assessing the psychological aspects of quality of life, the authors identified that negative feelings, such as anxiety and depression, are frequently reported by these caregivers. It was concluded that depression negatively impacts the quality of life of a dependent elderly caregiver, as it can interact with other body systems and cause somatic diseases⁽³⁹⁾.

The literature points out that the family caregiver of an elderly person tends to modify his routine due to the task of caring, which demands time and dedication. Often, there is a reduction in the time to take care of oneself and social isolation, which results in high levels of overload, depressive symptoms and consequent impairment of quality of life⁽²³⁾.

Some family caregivers point out that care can be exhausting and stressful, when there is no support from other family members. In this sense, there is a restriction of social activities, the appearance of depressive symptoms and a negative impact on the quality of life of these individuals⁽⁴⁰⁾.

In the present study, there was statistical significance among the mean SF-6D scores with the level of frailty ($p=0.004$), i.e., frail elderly caregivers had a worse perception of quality of life when compared to elderly non-frail caregivers.

Frail elderly people had decreased homeostatic reserve, reduced resilience and increased vulnerability in the face of stressors. All of these factors can lead to variations in the health status of elderly individuals and have implications for physical and psychological well-being, interfering with the positive perception of their quality of life^(33,41-42).

A statistically significant difference was identified between quality of life and reduced physical activity. Elderly people who presented low caloric expenditure in physical activities showed lower quality of life levels than active elderly people. Similar results have been identified in the national literature⁽⁴³⁾.

A study carried out in Piauí, with 80 elderly women, aimed to compare the level of quality of life between elderly women practicing and not practicing physical activity. The results showed that there was a statistically significant difference between physical activity and quality of life. In other words, better levels of quality of life were observed among elderly women who practiced physical activity⁽⁴³⁾.

The literature shows that physical activities are beneficial because they boost the functional maintenance of the locomotor system, one of the main responsible for the individual's independence in carrying out activities of daily living. It is known that the preserved functional capacity is closely related to better perceptions of quality of life⁽⁴³⁾.

There was significance between frailty, quality of life and depression in elderly caregivers. This finding shows that when there is fragility and depressive symptoms, there seems to be an impact on quality of life. These data are relevant to the understanding of how issues related to the health of elderly people in the context of social vulnerability can make them more susceptible to develop other health conditions⁽¹³⁾. A study conducted with Mexican elderly people showed a higher prevalence of depression and worse quality of life in frail elderly people. The study authors also report the need to clarify the extent to which poor quality of life in frail elderly people is influenced by adverse events that alter health, such as depression⁽⁴⁴⁾.

Given the above, it is necessary to promote and prevent health problems, in order to avoid the occurrence of chronic conditions that can trigger frailty, depression and, consequently, affect the quality of life of elderly caregivers. Monitoring health conditions with assertive interventions can minimize outcomes early⁽²⁸⁾.

Longitudinal studies with elderly caregivers of other elderly people are recommended to verify the cause and effect relationship between the variables of the present investigation. Furthermore,

it is suggested to include variables directly related to care, such as how long elderly caregivers have spent caring for another elderly person, how long in a day caregivers perform care, etc. It would also be desirable to invest in randomized clinical trials in cases of elderly caregivers in a process of frailty, given that the frailty is potentially reversible.

Study limitations

This study has as a limitation the small sample size. This can be an obstacle to the generalization of the results and the cross-sectional design, considering that conclusions cannot be drawn about causality. Underestimated data on the prevalence of frailty and depressive symptoms should be taken into account, since the design of this study did not involve a population sample.

Contributions to nursing, health, and public policies

The observed results contribute as a warning signal to health professionals about the importance of diagnosing frailty syndrome early and the presence of depressive symptoms among elderly caregivers. The planning of individualized interventions that meet the needs of each elderly caregiver and seek to improve their quality of life can be carried out through a global assessment of these elderly people. Furthermore, public policies of care for elderly caregivers in the context of primary care can be thought of.

CONCLUSION

The results showed that there is a relationship between frailty, depressive symptoms and quality of life of elderly caregivers of other elderly people. Elderly caregivers who were fragile and had depressive symptoms had a worse perception of quality of life.

This study presents as weaknesses the small sample size and the fact that the results may not apply to elderly caregivers inserted in other contexts.

On the other hand, the awareness of primary health care professionals stands out as a strength considering the importance of early identification of the level of fragility, depressive symptoms, and impaired quality of life. Developing previous and assertive interventions contributes to avoid the involvement of these individuals by both conditions. Moreover, the relevance and innovative character of the theme, the use of validated instruments for the Brazilian context and the fact that elderly individuals live in the community and are not selected based on depressive symptoms or fragility state are also present strengths study.

Future longitudinal research is suggested in order to discover the direction of the relationships found here. Monitoring these elderly caregivers can bring robust evidence for possible readjustments within the scope of public policies and actions to promote health and prevent diseases such as developing support groups to follow these individuals and meet their demands in search of a better quality of life.

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